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2018

## Undergraduate Catalog of Studies, 2017-2018

University of Arkansas, Fayetteville

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2017-18  
UNDERGRADUATE  
Catalog of Studies



UNIVERSITY OF  
ARKANSAS

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# Catalog Home

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This catalog of studies is a comprehensive reference for your years of study – a list of degrees, degree programs and courses offered at the University of Arkansas. In addition, it gives you valuable information such as suggested and required degree plans and information about costs, scholarships and financial assistance, and campus resources. Read it with pleasure and with care.

Take every opportunity to consult your academic adviser to ensure that you are taking advantage of courses and university resources that will help you reach your educational and career goals and graduate on time. Remember, the University of Arkansas is committed to your success. The faculty and staff are here to support you as you work to achieve your goals. Ask for help and advice whenever you need it.

The University of Arkansas is committed to the policy of providing educational opportunities to all qualified students regardless of their economic or social status and will not discriminate on the basis of race, color, sex, creed, sexual orientation, disability, veteran's status, age, marital or parental status, or national origin.

This is Volume 111; Publication Date: June 2017



# General Information

## Vision

By 2021, the University of Arkansas will be recognized as one of the nation's top 50 public research universities with nationally ranked departments and programs throughout the institution.

## Quick Facts

- **Location:** Fayetteville, Arkansas
- **Founded:** 1871
- **Enrollment:** 27,194 (Fall 2016)
- **Average ACT:** 26
- **Average high school GPA:** 3.68
- **Mission:** The mission of the University of Arkansas is to provide an internationally competitive education for undergraduate and graduate students in a wide spectrum of disciplines; contribute new knowledge, economic development, basic and applied research and creative activity; and provide service to academic/professional disciplines and society, all aimed at fulfilling its public land-grant mission to serve Arkansas and beyond as a partner, resource, and catalyst.

## History

Founded in 1871 as a land-grant college and state university, the University of Arkansas established its campus on a hilltop overlooking the Ozark Mountains. There were few facilities and little money that first academic year, but the eight students and three faculty members who gathered for the first classes in January 1872 showed the same dedication to learning and commitment to excellence that has carried the University of Arkansas into the 21st century.

More than 140 years later, the university's enrollment has passed 27,000, and its students represent all 50 states and 120 countries. The university is the state's foremost partner and resource for education and economic development. It serves as the major provider of graduate-level instruction in Arkansas. And its public service activities reach every county in Arkansas, throughout the nation, and around the world.

The University of Arkansas has 10 colleges and schools offering more than 200 academic programs including bachelor's degrees in 75 areas of study. The university maintains a low student-to-faculty ratio of 19:1 that promotes personal attention and mentoring opportunities. Individual classes may range from a large general-lecture class of more than 400 to a focused special-topics class of 4 or 5 students. U of A students are given the tools and encouragement needed to excel. Over the last 15 years, Arkansas students have become Rhodes, Gates Cambridge, Madison, Marshall, Goldwater, Fulbright, Boren, Gilman and Truman scholars. More than 120 students have received National Science Foundation Graduate Research Fellowships.

Students pursue a broad spectrum of academic programs leading to baccalaureate, master's, doctoral, and professional degrees, not only in traditional disciplines within arts, humanities, social sciences, and natural sciences, but also in the core professional areas of agricultural, food and life sciences; architecture; business; education; engineering; nursing; human environmental sciences; and law.

Students may also pursue a wide range of graduate degrees, including the Master's, the Educational Specialist, the Doctor of Education, and the Doctor of Philosophy.

As you make your way around campus, you're sure to notice something unique about many of the sidewalks. Historic Senior Walk showcases the names of more than 175,000 University of Arkansas graduates, grouped by year of graduation starting with the Class of 1876. A long tradition in both time and mileage, it's concrete proof of the university's commitment to students.

You won't be able to discover everything the university has to offer in a day, but here are a few attractions that you don't want to miss.

- **The Arkansas Union** — A primary gathering place for more than 40 years, the Arkansas Union serves as a place for students to attend educational and cultural events, access campus resources, eat, study and just meet friends between classes. The facility offers a food court, fitness center, technology center, bank, post office, Razorback shop, art gallery, theatre and much more.
- **Jim and Joyce Faulkner Performing Arts Center** — The university's old Field House, in which such legendary performers as Chuck Berry, Louis Armstrong and Peter, Paul and Mary have performed, was renovated recently into a 600-seat acoustically tuned performance hall. More than 200 musical concerts, operas and theatrical performances occur in the course of each year.
- **Chi Omega Greek Theatre** — The Chi Omega Greek Theatre, based on the designs of ancient Greece, is a popular place for concerts, pep rallies or just catching some rays between classes. Chi Omega, founded at the U of A in 1895 and now the largest women's fraternity in the nation, donated the Greek Theatre in 1930.
- **Fulbright Peace Fountain and Statue** — These two impressive landmarks commemorate the legacy of the late U.S. Senator J. William Fulbright, a graduate and former president of the University of Arkansas. Fulbright famously helped create the Fulbright Scholarship Program, the largest international exchange program of its kind. Internationally renowned architect E. Fay Jones, a U of A graduate and former dean of the School of Architecture, designed the Peace Statue.
- **Old Main** — This architectural centerpiece of campus opened for classes in 1875, making it the oldest building at the University of Arkansas. Visit the restored classrooms, take a closer look at the inner workings of the tower clock on the fourth floor and enjoy the shade of the trees on the Old Main Lawn.
- **The Inn at Carnall Hall** — Built in 1905, the first women's residence hall on campus is now a historic inn. The Inn at Carnall Hall is also home to the award-winning Ella's Restaurant and Lambeth Lounge, the perfect spot for a little R&R on campus.
- **The Fine Arts Center** — Designed by renowned architect Edward Durell Stone, the Fine Arts Center at the University of Arkansas was the first complex to integrate the fine arts — theatre, music and art — in one building with the intention that students from each discipline would be inspired by each other. The center houses the University of Arkansas Theatre, the Fine Arts Gallery and the Stella Boyle Smith Concert Hall.
- **Silas Hunt Memorial Sculpture** — Near Old Main, you'll find this tribute to the first black student to integrate a major Southern public university since Reconstruction. A veteran of World War II, Hunt was admitted without litigation into the University of Arkansas School of Law in 1948.
- **Pi Beta Phi Centennial Gate** — A new landmark, the gate serves as a formal entrance to the university's historic core. The striking entranceway was a gift, commemorating the first 100 years of Pi Beta Phi on campus.

- ***Il Porcellino*** — This wild boar statue with fountain is a replica of the original *Il Porcellino*, in Florence, Italy. The Italian title of the statue means “piglet” and comes from the local Florentine nickname for the statue. One of many Razorback tributes on campus!
- **Razorback Stadium/Hall of Champions Museum** — Donald W. Reynolds Razorback Stadium is one of the finest collegiate football facilities in the nation and home to the Jerry Jones/Jim Lindsey Hall of Champions Museum, located in the Frank Broyles Athletic Center. Bud Walton Arena houses two more athletic museums.
- **Walmart On Campus** — The nation’s first Walmart on Campus is also the smallest Walmart in the country. It’s located in the Garland Center, which also includes the U of A Bookstore as well as boutiques, salons and dining options.

The campus features many other landmarks and noteworthy facilities including the Clinton House, the small brick home on campus in which future President Bill Clinton and future Secretary of State Hillary Rodham Clinton lived while both served on the U of A’s law school faculty.

Fayetteville is routinely considered among the country’s finest college towns, and the area is regularly ranked as one of the best places in the United States to live, raise a family, work, play and retire. A thriving city of 77,000, Fayetteville is located in the hilly northwest corner of the state and has been named one of the top 5 cities in America the last two years by *U.S. News & World Report*.

Quickly gaining recognition as a nationwide center for arts and culture, the region is home to Crystal Bridges Museum of American Art. This world-class museum features a permanent collection of art spanning five centuries, from the Colonial era to the current day. The collection includes several works considered masterpieces. Crystal Bridges also offers miles of wilderness trails and a unique dining experience. If that’s not enough, admission is free. Another major cultural amenity, the Walton Arts Center, is located just two blocks from campus, where Broadway touring shows appear regularly.

Dickson Street, one of the state’s most popular entertainment districts, is also just a short walk from campus. A part of Fayetteville’s downtown historic district, Dickson Street offers a variety of restaurants, boutiques, galleries, and clubs unique to the area. Fayetteville’s historic square, College Avenue and the area around the Northwest Arkansas Mall are also great places for shopping and dining. The Fayetteville Farmers’ Market, an area tradition since 1974, was recently named one of “America’s Favorite Farmers’ Markets.”

Nearby Rogers offers the region’s newest open-air shopping experience with many of the nation’s most popular shops and eateries. And Eureka Springs, a Victorian mountain village known as the “Little Switzerland of the Ozarks,” offers more than 100 specialty shops and 70 restaurants about 45 minutes from campus.

Arkansas is a natural wonder of forests, mountains and lakes framed by picturesque rivers and streams. Some of the nation’s best outdoor amenities and most spectacular hiking trails are within a short drive of campus. Devil’s Den State Park is a short distance south of Fayetteville. Beaver Lake is 30 minutes to the northeast. Hawksbill Crag and the Buffalo National River, America’s first National River and one of the few remaining undammed rivers in the lower 48 states, are an hour’s drive to the east. The Razorback Greenway, a 36-mile bicycle route, runs from campus north to Bella Vista. Even closer to campus, Fayetteville’s Botanical Garden of the Ozarks offers another outdoor option.

Northwest Arkansas is one of the most economically stable regions in the nation and serves as the base of operations for Walmart, Tyson Foods Inc. and J.B. Hunt Transport Services. Because of their presence, many other corporations have established primary or secondary headquarters in the region. Their close proximity to the U of A campus, along with their executives’ and employees’ active involvement in university life, offers students and faculty exceptional opportunities for research partnerships, internships, and post-graduation employment.

The Northwest Arkansas Regional Airport has direct flights to most major metropolitan areas, including Atlanta, Chicago, Cincinnati, Charlotte, Dallas, Denver, Houston, Las Vegas, Los Angeles, Minneapolis, San Francisco, New York, Newark and Orlando; and, Fayetteville is within a day’s drive of several larger metropolitan areas, including Dallas, Kansas City, Little Rock, Memphis, St. Louis and Tulsa.

## For More Information

See the University of Arkansas Directory (<http://directory.uark.edu>) for a more comprehensive directory of offices and personnel.

### Admissions

Undergraduate Admissions	232 Silas H. Hunt Hall	479-575-5346
School of Law Admissions	193 Waterman Hall	479-575-4504
Graduate School Admissions	213 Ozark Hall	479-575-6246
International Admissions	213 Ozark Hall	479-575-6246

### Campus Tours & Visits

Office of Admissions	232 Silas H. Hunt Hall	479-575-5346
Graduate School Admissions	213 Ozark Hall	479-575-6246

### Distance Education

Global Campus, School of Continuing Education and Academic Outreach	2 E. Center St., Fayetteville	479-575-6483
Toll Free		1-800-952-1165
Self-Paced (Correspondence) Courses		479-575-3647
Toll Free		1-800-638-1217
Online and Off-Campus Classes		479-575-6486
Toll Free		1-877-633-2267

### Deans’ Offices

Honors College	244 Ozark Hall	479-575-7678
Dale Bumpers College of Agricultural, Food and Life Sciences	E-108 Agricultural, Food and Life Sciences Bldg	479-575-2252
Fay Jones School of Architecture	240 Vol Walker Hall	479-575-4945
J. William Fulbright College of Arts & Sciences	525 Old Main	479-575-4801
Sam M. Walton College of Business	301 Business Building	479-575-5949
College of Education and Health Professions	324 Graduate Education Bldg.	479-575-3208
College of Engineering	4183 Bell Engineering Center	479-575-6012
Graduate School and International Education	213 Ozark Hall	479-575-4401
School of Law	166 Waterman Hall	479-575-4504

## Enrollment Services

Vice Provost of Enrollment and Dean of Admissions 232 Silas H. Hunt Hall 479-575-3771

Global Campus, School of Continuing Education and Academic Outreach

Vice Provost for Distance Education 2 E. Center St., 504 Global Campus 1-800-952-1165

## Fee Payments

Student Accounts Arkansas Union Room 213 479-575-5651

## Financial Aid and Scholarships

Office of Financial Aid 114 Silas H. Hunt Hall 479-575-3806

Academic Scholarship Office 114 Silas H. Hunt Hall 479-575-4464

## Greek Life

Walton Hall Charles and Cappy Whiteside Greek Life Center 479-575-5001

## Honors Programs

Honors College 244 Ozark Hall 479-575-7678

Dale Bumpers College of Agricultural, Food and Life Sciences Dean's Office AFLS E-108 479-575-2252

Fay Jones School of Architecture 240 Vol Walker Hall 479-575-4945

J. William Fulbright College of Arts & Sciences 517 Old Main 479-575-2509

Sam M. Walton College of Business WCOB 328 479-575-4622

College of Education and Health Professions Office of the Associate Dean, GRAD 317 479-575-4205

College of Engineering BELL 3189 479-575-5412

## Housing

University Housing 410 Arkansas Avenue 479-575-3951

## International Students

International Admissions 213 Ozark Hall 479-575-6246

International Students and Scholars 104 Holcombe Hall 479-575-5003

## New Student Orientation

Admissions 232 Silas H. Hunt Hall 479-575-4200

International Students and Scholars 104 Holcombe Hall 479-575-5003

Graduate School 213 Ozark Hall 479-575-4401

## Registration

Office of the Registrar Main Office: 141 Uptown East (UPTE) 479-575-5451

Campus Office: 146 Silas H. Hunt Hall (HUNT) 479-575-5451

## ROTC

Air Force ROTC 319 Memorial Hall 479-575-3651

Army ROTC 207 Military Science Building 479-575-4251

## Student Affairs

Vice Provost for Student Affairs and Dean of Students 325 Administration Building 479-575-5007

## Testing (ACT, CLEP, LSAT, GRE, etc.)

Testing Services 1435 W. Walton St., TEST 200 479-575-3948

## Toll-Free Number

Toll-Free Number 1-800-377-8632

The following offices may be reached by dialing this toll-free number between 8 a.m. and 4:30 p.m. each weekday:

- Office of Admissions (undergraduate)
- Office of Scholarships and Financial Aid
- New Student Orientation

## Transcripts, Academic Records

Office of the Registrar Main Office: 141 Uptown East (UPTE) 479-575-5451

Campus Office: 146 Silas H. Hunt Hall (HUNT) 479-575-5451

## University Switchboard

University Switchboard 479-575-2000

## Veterans Affairs

Veterans Resource and Information Center 632 Arkansas Union 479-575-8742

## University of Arkansas

An office and building address from 1 University of Arkansas Area above Fayetteville, AR 72701 Code: 479

## 2017 Academic Calendar

### Summer 2017/May Intersession

### May Intersession 2017 - (10 Class Days/1 Final Day)

### Classes will meet on Saturday, May 20

Date	Description
May 15	Classes Begin
May 15	Last day to register, add a course, or change from audit to credit
May 16	Last day to drop without a mark of "W" or change from credit to audit
May 22	Last day to drop a May Intersession class with a "W"
May 25	Last day to officially withdraw from the May Intersession
May 25	Last day of classes for the May Intersession

May 26

Final Exams

**Summer Session 2017 - 10 Week (48 Class Days)**

Date	Description
May 29	Memorial Day Holiday
May 30	Classes Begin
June 1	Last day to register, add a course, or change from audit to credit
June 7	Last day to drop without a mark of "W" or change from credit to audit
July 4	Independence Day Holiday
July 14	Last day to drop a 10 Week class with a "W"
August 4	Last day to officially withdraw from the 10 Week session
August 4	Last day of classes for the 10 Week session

**Summer Session 2017 - First 5 Week (24 Class Days)**

Date	Description
May 29	Memorial Day Holiday
May 30	Classes Begin
May 31	Last day to register, add a course, or change from audit to credit
June 1	Last day to drop without a mark of "W" or change from credit to audit
June 21	Last day to drop a First 5 Week class with a "W"
June 30	Last day to officially withdraw from the First 5 Week session
June 30	Last day of classes for the First 5 Week session

**Summer Session 2017 - Second 5 Week (24 Class Days)**

Date	Description
May 29	Memorial Day Holiday
July 3	Classes Begin
July 4	Independence Day Holiday
July 5	Last day to register, add a course, or change from audit to credit
July 6	Last day to drop without a mark of "W" or change from credit to audit
July 26	Last day to drop a Second 5 Week class with a "W"
August 4	Last day to officially withdraw from the Second 5 Week session
August 4	Last day of classes for the Second 5 Week session

**Summer Session 2017 - 8 Week (37 Class Days)**

Date	Description
May 29	Memorial Day Holiday
May 30	Classes Begin
June 1	Last day to register, add a course, or change from audit to credit
June 5	Last day to drop without a mark of "W" or change from credit to audit
July 4	Independence Day Holiday
July 7	Last day to drop an 8 Week session class with a "W"
July 20	Last day to officially withdraw from the 8 Week session
July 20	Last day of classes for the 8 Week session

**Fall 2017/August Intercession  
August Intercession 2017 - (10 Class Days/1 Final Day)  
Classes will meet on Saturday, August 12**

Date	Description
August 7	Classes Begin
August 7	Last day to register, add a course, or change from audit to credit
August 8	Last day to drop without a mark of "W" or change from credit to audit
August 14	Last day to drop an August Intercession class with a "W"
August 17	Last day to officially withdraw from the August Intercession
August 17	Last day of classes for the August Intercession
August 18	Final Exams

**Fall 2017 - (73 Class Days; 43 MWF, 30 TT)**

Date	Description
August 21	Classes Begin
August 25	Last day to register, add a course, or change from audit to credit
September 1	Last day to drop without a mark of "W" or change from credit to audit
September 4	Labor Day Holiday
October 16-17	Fall Break (student break; University offices will be open)
October 30	Priority Registration for Spring 2018 begins for currently enrolled students
November 17	Last day to drop a full semester class with a "W"
November 22	Thanksgiving Break (student break; University offices will be open)
November 23-24	Thanksgiving Holiday
December 7	Last day to officially withdraw from all classes

December 7	Last day of classes for fall semester
December 8	Dead Day
December 11-14	Final Exams
December 16	Commencement

## 2018 Academic Calendar

### January 2018/January Intercession

#### January Intercession 2018 - (10 Class Days/1 Final Day)

#### Classes will meet on Saturday, January 6 and Saturday, January 13

Date	Description
January 2	Classes Begin
January 2	Last day to register, add a course, or change from audit to credit
January 3	Last day to drop without a mark of "W" or change from credit to audit
January 9	Last day to drop a January Intercession class with a "W"
January 12	Last day to officially withdraw from the January Intercession
January 12	Last day of classes for the January Intercession
January 13	Final Exams

### Spring 2018 - (73 Class Days; 43 MWF, 30 TT)

Date	Description
January 15	Martin Luther King Day
January 16	Classes Begin
January 22	Last day to register, add a course, or change from audit to credit
January 29	Last day to drop without a mark of "W" or change from credit to audit
March 19-23	Spring Break Week
April 2	Priority Registration for Summer and Fall 2018 terms begins for currently enrolled students
April 20	Last day to drop a full semester class with a "W"
May 3	Last day to officially withdraw from all classes
May 3	Last day of classes for spring semester
May 4	Dead Day
May 7-10	Final Exams
May 11-12	Commencement
May 19	Law School Commencement

### Summer 2018/May Intercession

#### May Intercession 2018 - (10 Class Days/1 Final Day)

#### Classes will meet on Saturday, May 19

Date	Description
May 14	Classes Begin
May 14	Last day to register, add a course, or change from audit to credit
May 15	Last day to drop without a mark of "W" or change from credit to audit
May 21	Last day to drop a May Intercession class with a "W"
May 24	Last day to officially withdraw from the May Intercession
May 24	Last day of classes for the May Intercession
May 25	Final Exams

### Summer Session 2018 - 10 Week (48 Class Days)

Date	Description
May 28	Memorial Day Holiday
May 29	Classes Begin
July 4	Independence Day Holiday
August 3	Last day of classes for the 10 Week session

### Summer Session 2018 - First 5 Week (24 Class Days)

Date	Description
May 28	Memorial Day Holiday
May 29	Classes Begin
June 29	Last day of classes for the First 5 Week session

### Summer Session 2018 - Second 5 Week (24 Class Days)

Date	Description
July 2	Classes Begin
July 4	Independence Day Holiday
August 3	Last day of classes for the Second 5 Week session

### Summer Session 2018 - 8 Week (37 Class Days)

Date	Description
May 28	Memorial Day Holiday
May 29	Classes Begin
July 4	Independence Day Holiday
July 19	Last day of classes for the 8 Week session

## Board of Trustees

The trustees of the University of Arkansas System are appointed by the governor of Arkansas to 10-year overlapping terms. The board sets policy for the University of Arkansas as well as other universities, colleges and institutes within the system.

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### Ben Hyneman, chair

Ben Hyneman of Jonesboro is president of Southern Property & Casualty Insurance Co. He is former commissioner and chair of the Arkansas Soil and Water Conservation Commission. Hyneman is a 1971 graduate of the University of Arkansas. His term expires in 2018.

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### Mark Waldrip, vice chair

Mark Waldrip of Moro is owner of East Arkansas Seeds Inc. and Armor Seed LLC, companies that develop and sell soybeans, wheat, rice and corn. He also owns and manages Waldrip Farms Inc., a several thousand acre family farm. Waldrip is a 1977 graduate of the University of Arkansas. His term expires in 2020.

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### Morrill Harriman, secretary

Morrill Harriman of Little Rock has served as Governor Mike Beebe's chief of staff since Beebe took office in 2007. Prior to that, Harriman served 16 years in the Arkansas Senate. He earned both his bachelor and law degrees from the University of Arkansas. His term expires in 2024.

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### Kelly Eichler, assistant secretary

Kelly Eichler of Little Rock is the public policy director for Gov. Asa Hutchinson. She previously served as a deputy prosecutor for Pulaski County and on the Arkansas Board of Corrections. She earned a bachelor's degree from the University of Arkansas and a law degree from the University of Arkansas at Little Rock Bowen School of Law. Her term expires in 2026.

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### David Pryor

David H. Pryor of Fayetteville is a former U.S. senator (1979-1997), Arkansas governor (1975-1979) and U.S. congressman (1967-1973). He is founding dean of the University of Arkansas Clinton School of Public Service and serves on the board of the Corporation for Public Broadcasting. His term expires in 2019.

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### John Goodson

John Goodson of Texarkana is a law partner at Keil & Goodson, P.A. He earned his bachelor's degree in 1987 and law degree in 1989 from the University of Arkansas. His term expires in 2021.

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### Stephen Broughton

Dr. Stephen Broughton of Pine Bluff is a staff psychiatrist for the Southeast Arkansas Behavioral Health System. Broughton earned his bachelor's degree from the University of Arkansas at Pine Bluff and completed his medical education at the University of Arkansas for Medical Sciences. His term expires in 2022.

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### C.C. "Cliff" Gibson III

C.C. "Cliff" Gibson III of Monticello is founder of Gibson and Keith Law Firm and serves as county attorney for Drew County, Ark. The former president of the Monticello Economic Development Commission, Gibson attended the University of Arkansas at Monticello and earned his Juris Doctor at the UALR Bowen School of Law. His term expires in 2023.

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### Tommy Boyer

Tommy Boyer, of Fayetteville, graduated from the University of Arkansas, Fayetteville in 1964, where he was also an All-American basketball player. He retired from the Eastman Kodak Company in 1989, and founded Micro Images in Amarillo, Texas. Within two years, Micro Images had become the largest Kodak document imaging systems broker and reseller in the United States. Boyer was inducted into the Arkansas Business Hall of Fame in 2013 and the Arkansas Sports Hall of Fame in 2000. His term expires in 2027.

## Administrative Officers

### System Administration

President, University of Arkansas System — Donald Bobbitt, B.S., Ph.D.

### Chancellor and Vice Chancellors

Chancellor, University of Arkansas — Joseph E. Steinmetz, B.S., M.A., Ph.D.

Provost and Executive Vice Chancellor for Academic Affairs — Jim Coleman, B.S., M.S., M.Phil., Ph.D.

Vice Chancellor for Finance and Administration — Timothy J. O'Donnell, B.B.A.

Vice Chancellor for Government and Community Relations — Randy Massanelli, B.S.B.A.

Vice Chancellor for Intercollegiate Athletics — Jeff Long, B.A., M.A.

Vice Chancellor for Student Affairs — Charles F. Robinson II, B.A., M.A., Ph.D.

Vice Chancellor for University Advancement — Mark Power, B.A.

### Deans and Vice Provosts

Dean of Honors College — Lynda Coon, B.A., M.A., Ph.D.

Dean of Dale Bumpers College of Agricultural, Food and Life Sciences, interim — Lona Robertson, B.S., M.S., Ed.D.

Dean of Fay Jones School of Architecture and Design — Peter MacKeith, B.A., M.Arch.

Dean of J. William Fulbright College of Arts and Sciences — Todd Shields, B.A., M.A., Ph.D.

Dean of Sam M. Walton College of Business — Matt Waller, B.S., M.S., Ph.D.

Dean of College of Education and Health Professions — Michael T. Miller, B.A., M.S., Ed.D.

Dean of College of Engineering — John English, B.S.E.E., M.S.O.R., Ph.D.

Dean of Graduate School and International Education — Kimberly LaScola Needy, B.S.I.E., M.S.I.E., Ph.D.

Dean of School of Law — Stacy L. Leeds, B.A., M.B.A., LL.M., J.D.

Dean of Students — Melissa Harwood-Rom, B.A., M.F.A., M.S.Ag.E.

Dean of University Libraries — Carolyn Henderson Allen, B.S., M.S.

Dean of Admissions and Vice Provost for Enrollment Services — Suzanne McCray, B.A., M.A., Ph.D.

Vice Provost for Academic Affairs — Terry Martin, B.S.E.E., M.S.E.E., Ph.D.

Vice Provost for Distance Education, interim — Donald Judges, B.A., J.D., Ph.D.

Vice Provost for Diversity — Open

Vice Provost for Faculty Development and Enhancement — Ro Di Brezzo, B.S., M.S., Ph.D.

Vice Provost for Planning — Kathy Van Laningham, B.A., M.A., Ph.D.

Vice Provost for Research and Economic Development — James Rankin, B.S.E.E., M.S.E.E., Ph.D.

## University Profile

### Vision

By 2021, the University of Arkansas will be recognized as one of the nation's top public research universities with nationally ranked departments and programs throughout the institution.

### Mission

The mission of the University of Arkansas is to provide an internationally competitive education for undergraduate and graduate students in a wide spectrum of disciplines; contribute new knowledge, economic development, basic and applied research and creative activity; and provide service to academic/professional disciplines and society, all aimed at fulfilling its public land-grant mission to serve Arkansas and beyond as a partner, resource, and catalyst.

### History

Founded as a land-grant college and state university in 1871, the University of Arkansas opened its doors to students on January 22, 1872. Under the Morrill Land-Grant College Act of 1862, federal land sales provided funds for the new university, which was charged with teaching "agricultural and the mechanic arts," "scientific and classical studies," and "military tactics" to Arkansas scholars.

Statewide elections, held to establish bonds to help finance the university, eventually determined the school's location. Washington County and the city of Fayetteville submitted the highest bid, a total of \$130,000, to which was added a \$50,000 state appropriation for the benefit of the institution and \$135,000 from the sale of federal lands. With \$12,000 of this money, the university purchased a 160-acre farm, the homestead of William and Martha McIlroy, and established its campus on a hilltop overlooking the Ozark Mountains.

There were few facilities and little money that first academic year, but the eight students and three faculty members who gathered for classes in 1872 showed the same dedication to learning and commitment to excellence that has carried the University of Arkansas into the 21st century. Over the past 140 years, the university has developed into a mature institution with 10 schools and colleges, more than 1,100 full-time faculty members, and more than 26,000 students. It serves as the major provider of graduate-level instruction in Arkansas. The research and scholarly endeavors of its faculty make it an economic and cultural engine for the state. And its public service activities reach every county in Arkansas, throughout the nation, and around the world. Find out more about the university's history (<http://www.uark.edu/about/history.php>) or browse our timeline (<http://uark.edu/about/time-line.php>).

## Today at the University of Arkansas Campus

Students pursue a broad spectrum of academic programs leading to baccalaureate, master's, doctoral, and professional degrees, not only in traditional disciplines within arts, humanities, social sciences, and natural sciences, but also in the core professional areas of agricultural, food and life sciences; architecture; business; education; engineering; nursing; human environmental sciences; and law.

The University of Arkansas houses more than 200 academic programs and offers bachelor's degrees in 75 areas of study. Students may also pursue a wide range of graduate degrees, including the Master's, the Educational Specialist, the Doctor of Education, and the Doctor of Philosophy.

The Carnegie Foundation categorizes the University of Arkansas as a research institution with "very high research activity," placing the university among the top 2 percent of universities nationwide and in a class by itself within the state of Arkansas. *U.S. News and World Report* consistently ranks the university among the top tier of institutions of higher education. Faculty members perform cutting-edge research for which they annually win prestigious grants and awards, and the university encourages undergraduates to participate in the research process. Such opportunities enhance the learning process by providing hands-on experience in lab and research techniques, by developing students' abilities to implement, experiment, discover and teach, and by fostering a mentoring relationship early in students' academic careers.

Research programs involving both faculty and students serve as vital sources of information on the economic and social needs of Arkansas. In many fields, research performed at the University of Arkansas reaches beyond the state to provide insight and guidance on issues of national and international concern. The university provides extensive technical and professional services to varied groups and individuals throughout the state, helping to further Arkansas' economic growth. The university operates nationally respected self-paced (correspondence) courses; it assists other institutions in developing educational programs; it offers graduate programs, both cooperatively and singly, throughout the state; and it makes specialized campus resources such as computing services and library holdings available to other institutions in the state.

Classes at the university maintain a low average ratio of students to instructor, although individual classes may range from a large general-lecture class of 200 to a focused special-topics class of 4 or 5 students. University of Arkansas students are given the tools and encouragement needed to excel. Over the last 15 years, more than 200 undergraduate Arkansas students have become Rhodes, Gates Millennium, Madison, Marshall, Goldwater, Fulbright, Boren, Gilman and Truman scholars. More

than 100 graduate students have received National Science Foundation Graduate Research Fellowships. Find out more about the university's numbers (<http://www.uark.edu/about/by-the-numbers.php>).

## Academic Resources and Facilities

The University of Arkansas provides a variety of resources for students to enhance their ability to attend college, improve their studies in class, and aid their academic research as they advance through their curricula.

The programs and services listed at left provide advice, tools and inspiration for high school students; individual tutoring for students on campus and infrastructure such as libraries and technology support that offer University of Arkansas students ongoing support throughout their college careers.

## Center for Learning and Student Success

The Center for Learning and Student Success is designed to provide assistance to all University of Arkansas students in meeting their academic goals. The center's goal is for every University of Arkansas student who needs or wants academic assistance to participate in the programs and services of the center without hesitation or barrier.

Over 10,000 students took advantage of the center's programs last year including:

- Tutoring in a variety of subjects (math, the sciences, world languages, business, economics, and other courses taught throughout the university);
- Writing Support;
- Supplemental Instruction in the sciences, economics, accounting, and data analysis;
- Academic Coaching;
- Self-help resources dealing with study skills, time management, test taking, anxiety reduction, and effective learning strategies;
- Study areas and access to state-of-the art computers.

The center partners with University Housing, Mullins Library, Mechanical Engineering, Sam M. Walton College of Business and the Multicultural Center to provide unique tutoring and other assistance to students in a variety of locations and formats. For all services or to make an appointment for tutoring, see [class.uark.edu](http://class.uark.edu).

The center's primary location is in Gregson Hall. The majority of CLASS+ SI, tutoring and writing support is available from 9 a.m. to 9 p.m. Mondays through Thursdays, and from 9 a.m. to 3 p.m. Fridays. Tutoring is also available on Sunday afternoons in the Multicultural Center (Arkansas Union) and Mullins Library.

Contact CLASS+ by phone at 479-575-2885 or visit [class.uark.edu](http://class.uark.edu).

## Center for Multicultural and Diversity Education

The Center for Multicultural and Diversity Education provides academic, cultural and social programs intended to promote inclusiveness, foster achievement and assist in the development and advancement of a diverse student body.

The center is located on the fourth floor of the Arkansas Union in Room 404, and can be contacted at 479-575-8405 or by visiting [multicultural.uark.edu](http://multicultural.uark.edu).

## Information Technology Services

At the University of Arkansas, you can expect a high level of IT support.

Essential technology services hosted by IT Services include email, the campus network, Wi-Fi, technical support, computer labs, printing and the online student information system (UAConnect). New or returning students can use the Get Started Tech Selector (<http://its.uark.edu/tech-selector/get-started.html>) to learn about online services and UARK account activation.

The secure Wi-Fi network (<http://its.uark.edu/internet/wireless>) requires a UARK username and password and provides full Internet access, while the UARK Guest Wi-Fi network provides limited access using any email address. The eduroam Wi-Fi network provides access to visitors from participating institutions and is available to UARK users when traveling to participating institutions.

UARK Gmail at [email.uark.edu](mailto:email.uark.edu) is the official email service for students and can be set up to work with various email apps and mobile devices. Students can visit the About Student Email (<http://its.uark.edu/email/gmail>) page for information on UARK Gmail features and instructions for setting up email on a mobile device. The official email service for faculty and staff is Microsoft Exchange (<http://its.uark.edu/email/exchange>).

General Access Computing Labs (GACLs) offer Windows and Mac computers for use by students, faculty and staff. GACL locations and hours of operation are available on the Computer Labs (<http://its.uark.edu/labs>) page. PrintSmart provides a student printing quota equivalent to 700 single-sided black and white pages per student per semester. Printing is available in GACLs and at QuickPrint stations around campus.

The Student Technology Center (<http://its.uark.edu/labs/student-tech-center>) offers high-end single and multi-user online gaming computers and multimedia hardware and software. Laptops, cameras and other digital equipment are available for checkout from the center. Equipment, recording studios and a team room can also be reserved in advance. The Arkansas Union computer lab also has a team room and a quiet room available for reservation.

The IT Help Desk (<http://its.uark.edu/help/help-desk>) provides technical support to students, faculty and staff over the phone at 479-575-2905 or online at [AskIT.uark.edu](http://AskIT.uark.edu). Technical support is also available in person at the Arkansas Union, Administrative Services Building and J.B. Hunt building during regular business hours.

## Reasonable Accommodation for Students with Disabilities

The Center for Educational Access (CEA), 209 Arkansas Union, is the central campus resource for students who require reasonable accommodations in order to access the programs, services and activities offered through the University. CEA staff work in partnership with the individual student to communicate and facilitate any accommodation needs to faculty and staff. Accommodation determination is based in part on medical or psychological documentation provided to the CEA by the student. Students must meet with one of the CEA staff for an access plan meeting to discuss their needs and provide such documentation before any accommodations can be granted.



To register for services or for more information, contact the Center for Educational Access, University of Arkansas, 209 ARKU, Fayetteville, AR 72701, phone 479-575-3104 ; e-mail: [ada@uark.edu](mailto:ada@uark.edu); Web: Center for Educational Access (<http://cea.uark.edu>) (online request for services available).

## Student Support Services

The department of Student Support Services is designed to provide a powerful combination of programs and services to students who are first-generation, and/or modest-income, and/or individuals with disabilities. The services provided by Student Support Services place an emphasis on individual assessment, counseling, advising, and skill building. Some of these services include: academic/financial/personal counseling, financial scholarships, social etiquette instruction, career and graduate school preparation, academic/cultural enrichment, assistance with tutoring, and mentorship. The overarching goal of the University of Arkansas Student Support Services program is to empower students, assist them in achieving academic excellence, and seeing them through to graduation.

Student Support Services is a department in the Division of Student Affairs. The office is located on the Garden Level of Gregson Hall. For more details, call Student Support Services at 479-575-3546 or visit the Student Support Services website (<http://sss.uark.edu>).

## Talent Search Programs

### College Project Talent Search, Educational Talent Search, and University Access Talent Search

College Project, University Access and Educational Talent Search are early-intervention college preparatory projects. Serving more than 2,200 students in grades 6-12, the programs promote skills and information necessary for successfully completing a baccalaureate degree. With a developmental curriculum, staff prepare students to meet their college goals by emphasizing leadership and career development, technological and academic skills, ACT readiness/payment assistance, college preparatory workshops, financial aid and scholarship information, financial literacy, and support for completing a rigorous high school curriculum.

Academic monitoring and advising are ongoing to guide and facilitate student progress.

Talent Search services are provided at participating schools on an outreach basis, while summer enrichment and campus-based events provide opportunities for institutional engagement. The programs are under the federal umbrella of "TRIO" and are grant-funded by the U.S. Department of Education. Eligibility requirements include but are not limited to having first-generation/low income status, exhibiting academic potential, and attending one of the 37 target schools served. For additional information, visit the Talent Search website (<http://talentsearch.uark.edu>).

Offices for the Talent Search program are at the university's Uptown Campus East, 1083 E. Sain Street, UPT 128, Fayetteville, Arkansas. Call 479-575-3553 for more information.

## Testing Services

Testing Services is charged with the responsibility of administering standardized academic tests at the University of Arkansas. The office administers such national tests as:

- the ACT Assessment

- the Law School Admission Test (LSAT)
- the Graduate Management Admission Test (GMAT)
- the Graduate Record Examination (GRE)
- the CLEP exams in addition to others throughout the year.

National testing companies determine testing dates and deadlines. Testing Services also offers a number of institutional tests such as the Test of English as a Foreign Language (TOEFL) and the Spoken Language Proficiency Test (SLPT). These tests are scheduled at various times as demand dictates. Test fees vary depending on the test.

To obtain a registration bulletin or information about exam dates and deadlines, please stop by the Testing Center at 1435 W. Walton St., Fayetteville, or call 479-575-3948.

## University Libraries

The library system of the University of Arkansas, Fayetteville, includes the David W. Mullins Library, the main research facility on campus, and four branch libraries:

- The Robert A. and Vivian Young Law Library (<http://law.uark.edu/library>)
- The Fine Arts Library (<http://libinfo.uark.edu/FAL>)
- The Chemistry and Biochemistry Library (<http://libinfo.uark.edu/chemistry>)
- The Physics Library (<http://libinfo.uark.edu/physics>)

The spacious Helen Robson Walton Reading Room is Mullins Library's most popular quiet study area, but group study space and graduate student study space is also available. More than 200 databases and thousands of electronic journals are accessible from anywhere with a University ID. Librarians onsite assist in locating and using library resources, or students may send questions by email, phone, or 24/7 chat.

Subject librarians (<http://libinfo.uark.edu/info/specialists.asp>) are also available for one-on-one research consultations tailored to individual research questions, whether onsite, over the phone, or even remotely by video software. Librarians conduct orientation sessions on research methods and software throughout the semester and the Quality Writing Center (<http://qwc.uark.edu>) has a satellite location inside Mullins Library.

With 2.1 million volumes and more than 56,000 journal titles, students will find research material for every subject. Other resources in the collections include several thousand maps, manuscripts, and more than 33,000 audio and visual materials, including music scores, recordings, and movies, available through the Performing Arts and Media (<http://libraries.uark.edu/AV/default.asp>) Department on the lower-level of Mullins Library.

A full-service computer commons (GACL) is located on the lobby level of Mullins, complete with printing stations and state-of-the-art scanners. Laptops and iPads are available to check-out to take advantage of wireless access anywhere in the library. Visit the University Libraries website (<http://libinfo.uark.edu>) to learn more about services and collections, or access My Library (<https://library.uark.edu/patroninfo-S1>) to check accounts, renew books, request holds, or save catalog searches.

Items not owned by the University Libraries may be obtained through Interlibrary Loan (<http://libinfo.uark.edu/ill/default.asp>). Requested items in electronic format will be sent directly to desktops, usually within 24 hours; physical items are held for pickup at the main service desk on the Lobby Level. The University Libraries have had official status as a United States government depository since 1907, and the Government

Documents Department has been a depository for Arkansas state publications since 1993. The University Libraries' map collection and GIS (<http://libinfo.uark.edu/GIS/default.asp>) (geographic information systems) program, including a public GIS workstation equipped with ArcGIS Desktop Suite, are also available.

In Special Collections, students can read rare books from around the world; consult the largest book collection related to Arkansas; handle historic letters, diaries, magazines, and old photographs in the archives; and watch old black and white films made in or about the state. A number of digital collections and exhibits (<http://libinfo.uark.edu/eresources/digitalcollections.asp>) are available through the Special Collections website (<http://libinfo.uark.edu/SpecialCollections>). Special Collections also holds the University Archives, the Arkansas Collection, and the Arkansas Architectural Archives.

To stay up-to-date on the Libraries' programs, resources, and events, follow @UARKLibraries on Facebook, Twitter, Instagram, and Pinterest. For information concerning collections and services, please inquire at 479-575-4104 or refer@uark.edu. For any other questions, please contact the Dean's Office at 479-575-6702.

## Upward Bound Programs

### Upward Bound and Upward Bound Math and Science

Upward Bound (<http://ub.uark.edu>) and Upward Bound Math and Science are early intervention programs that help low-income and potential first-generation college students prepare for higher education. These programs bring high school students in grades 9 – 12 to the University of Arkansas campus on weekends and during the summer to receive instruction in mathematics, laboratory sciences, composition, literature, and foreign languages. The programs also provide academic and social support through tutoring, counseling, mentoring, cultural enrichment, financial literacy, field trips, college planning, and financial aid assistance. For students just completing their senior year of high school, Upward Bound provides a summer residential bridge program that enables participants to earn up to six hours of college credit. Funding is provided through grants from the U.S. Department of Education.

### Veterans Upward Bound

Veterans Upward Bound (<http://vub.uark.edu>) is designed to identify and serve the unique needs of veterans who have the academic potential and desire to enter and succeed in a program of higher education. Eligible veterans must have completed a minimum of 180 days of active duty in the military or Coast Guard and hold any discharge other than dishonorable. Services include tutoring; guidance counseling; assistance in filing financial aid and VA benefit forms; academic/career advisement; test preparation for entrance exams; and courses in English, Spanish, math, science, and computer technology. Courses are offered days and evenings each semester. Funding is provided through a grant from the U.S. Department of Education. Call 479-575-2442 for more information.

The Upward Bound and Veterans Upward Bound offices are located at the university's Uptown Campus West, 1001 E. Sain Ave., Fayetteville.

## Online Education

Academic colleges and schools at the University of Arkansas provide flexible learning options through distance education and online learning options for undergraduate and graduate students. Traditional online courses, self-paced online (correspondence) courses, and online degree programs remove the barriers of time and distance. Support units provide

the web-based resources and services necessary for distance and online students to reach their educational and professional goals.

## Global Campus

The Global Campus (<http://globalcampus.uark.edu>), School of Continuing Education and Academic Outreach, serves as a portal for online, distance and professional education programs and courses provided by the University of Arkansas. Experienced staff members collaborate with the university's academic colleges and other academic units to develop and facilitate quality courses and programs that help students reach educational and professional goals.

## State Authorization and Distance Education Beyond Arkansas

The University of Arkansas, Fayetteville delivers online education programs and courses throughout the United States and internationally. All programs have been approved by the Arkansas Department of Higher Education. Many states have prescribed an "authorization" process for out-of-state institutions delivering online programs to its state residents to ensure quality post-secondary education, to preserve the integrity of an academic degree and to instill greater consumer protection for its student citizens.

Authorization (sometimes referred to as "registration," "licensure," "approval," etc.) indicates that certain minimum standards have been met by the institution 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.

The University of Arkansas, Fayetteville, through the Global Campus, has taken steps to protect its students and operations through nationwide compliance and has been granted authorizations, exemptions and waivers from many states. In other states, the University of Arkansas, Fayetteville 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 of Arkansas activities in that state. More specific information about state authorization can be found at the University of Arkansas Online Web page (<http://online.uark.edu/about/state-authorization.html>). The Global Campus supports the university's development and delivery of online and distance education.

## Student Affairs

### Vision Statement

The University of Arkansas Division of Student Affairs engages students to develop their strengths, inspiring leadership for a global society.

### Mission Statement

The University of Arkansas Division of Student Affairs strengthens students for success.

### Values

The University of Arkansas Division of Student Affairs values inclusion, service, inquiry, partnership, and excellence:

**Inclusion:** We embrace the uniqueness of individuals and engage every member of our diverse community.

**Service:** We connect students to resources, opportunities, and experiences transforming them into active, engaged citizens of a global society.

**Inquiry:** We engage ourselves and our students in the acquisition, application, and creation of knowledge for lifelong learning.

**Partnership:** We explore and welcome opportunities to collaborate with our students, colleagues, and members of our global community.

**Excellence:** We apply our varied talents and strengths with integrity to providing exceptional service to our students.

## Strategic Goals

To achieve this Mission the University of Arkansas Division of Student Affairs will:

- Foster the ongoing development of an inclusive community.
- Enhance students learning through effective programs and services.
- Advocate rights and responsibilities through service to students and collaboration with partners.
- Steward all of the division's resources responsibly.
- Communicate and collaborate effectively.

The Vice Chancellor for Student Affairs administers the departments of the Division of Student Affairs and provides leadership in the development of programs and services that supplement the classroom experience of students and enrich the quality of campus life. The Vice Chancellor serves as a liaison to other administrative offices, faculty, and student governing groups. The office is a central source of information concerning University policies and procedures affecting student life and co-curricular programs and services.

The Office of the Vice Chancellor for Student Affairs and the Office of the Dean of Students emphasize student advocacy while broadening the development of services and programs that address a range of student and campus needs. Departments in the Division of Student Affairs are dedicated to developing exceptional programs and services that enhance the University of Arkansas experience and enrich the quality of student and campus life. Staff members are available and willing to assist with any problem or question a student, staff, or faculty member may have regarding student and campus life at the University of Arkansas. The office is available for the clarification of university policies and procedures, confidential consultation, formal academic grievances, personal and family crisis assistance for students, and referral to all campus and community services. The office also seeks to assist students and faculty members in cases of emergency or extenuating circumstances. Staff members are firmly committed to addressing the challenges and individual needs of the University of Arkansas family.

## Arkansas Union

The Arkansas Union is the community center of campus; serving students, faculty, staff, alumni, and guests. Through its facilities, programs, and services, the Arkansas Union is the place to build relationships, enrich academics, and experience campus life to the fullest.

But more importantly, the Student Union plays a pivotal role in putting University of Arkansas students first. It is home to essential student needs, such as food service, computer technology, student accounts, banking, and the Campus Card Office. The Arkansas Union provides social and educational programming space, as well as lounge and study areas. Additionally, recreational opportunities are available in the

Student Union, through the satellite fitness center, cinema, and Student Technology Center. Located inside the Arkansas Union are:

### Retail Outlets

- ATMs (various banks)
- Au Bon Pain
- Catering and Dining Services
- Club Red Convenience Store
- Freshens
- Passport Office
- PMC - Drop-Off Copy Center
- Razorback Shop
- U.S. Post Office
- Union Hair Care

### Union Market

- The Wok
- The Diner
- Papa John's
- Burger King®
- Chick-Fil-A® Express
- Flying Burrito
- Mondo Subs
- Au Bon Pain Soups & Garden Emporium Salads

### Facilities

- Anne Kittrell Art Gallery
- Computer lab
- Verizon Ballroom
- International Connections Lounge
- Student Technology Center
- Meeting rooms
- Reception rooms
- Union Living Room
- Union Information Center
- Union Theatre
- University Recreation Fitness Center
- UP Theater

### Student Services

- Academic Initiatives and Integrity
- Arkansas Union Administration/Event Services
- Associated Student Government
- Campus Card Office
- Career Development Center
- Center for Community Engagement
- Center for Educational Access
- Multicultural Center
- New Student and Family Programs
- Off Campus Connections
- Student Activities
- Treasurer's Office and Student Accounts
- University Productions

- Veterans Resource and Information Center

## Campus Life

### Center for Community Engagement

The purpose of the Center for Community Engagement is to promote civic engagement and leadership by connecting University of Arkansas students, faculty, and staff with nonprofit organizations in the Northwest Arkansas area and beyond.

In order to serve this purpose, the center maintains [uark.givepulse.com](http://uark.givepulse.com) (<http://volunteer.uark.edu>), which enables the University of Arkansas community to search for agencies and volunteer opportunities. It allows users to log volunteer hours, or “impacts,” and earn opportunities for community recognition, such as the Presidential Volunteer Service Award and Chancellor’s Community Service Award. Northwest Arkansas agencies and University of Arkansas registered student organizations also utilize the site to post service opportunities and recruit volunteers. Over 350 organizations and subgroups are registered on the site, such as Habitat for Humanity, Uark Cardinal Nights, and Potter’s House Thrift.

### Volunteer Action Center

The Center for Community Engagement also houses the Volunteer Action Center, a student-led volunteer coordination board with 45 members who are dedicated to active service in the community. Each year the Volunteer Action Center provides meaningful service opportunities through events and ongoing projects that engage the university and Northwest Arkansas communities. The Volunteer Action Center sponsors programs and events including the Jane B. Gearhart Full Circle Food Pantry, Make a Difference Day, Dream B.I.G. (Believing in Girls) Mentoring Program, VAC Literacy Program, and Razorback Food Recovery. The Jane B. Gearhart Full Circle Campus Food Pantry is a nationally recognized program; the pantry serves students, staff and their families. Requests and more information can be found at [fullcircle.uark.edu](http://fullcircle.uark.edu).

Get involved in the following ways:

- Drop by the Center for Community Engagement, Arkansas Union, Room A643, and chat with the office’s great staff and students.
- Look for service opportunities on [uark.givepulse.com](http://uark.givepulse.com) (<http://volunteer.uark.edu>) and log your hours. Just ten hours makes you a VAC member.
- Participate in events hosted by Volunteer Action Center and the Center for Community Engagement throughout the year.
- Become a Volunteer Action Center board member or weekly program volunteer. Applications are accepted each semester.

### Greek Life

The Charles and Cappy Whiteside Greek Life Leadership Center facilitates the educational process and provides resources related to programs that strengthen the growth and development of students affiliated with fraternities and sororities on campus. The overall mission is to strengthen the academic, cultural, moral, and social development of students in Greek organizations; provide training in strengths-based leadership and other personal and social skills; promote involvement in extracurricular activities and community service projects; and promote Greek Life as a productive and viable lifestyle on campus. The Greek Life Leadership Center coordinates programs such as Recruitment, Greek Getaway, Greek Life Facilitators, and Greek Summit in collaboration with the Interfraternity Council, the National Pan-Hellenic Council, the Panhellenic Council, and the United Greek Council.

The Interfraternity Council (IFC), National Pan-Hellenic Council (NPHC), Panhellenic Council (PC) and United Greek Council (UGC) govern 16 national sororities and 19 fraternities. The officers and representatives of each council work with the staff of the Greek Life Leadership Center to provide positive programs and strengths-based leadership opportunities to the members of the Greek organizations. The Charles and Cappy Whiteside Greek Life Leadership Center is in Walton Hall 101; phone 479-575-5001 or fax 479-575-3531; Web: [uagreeks.uark.edu](http://uagreeks.uark.edu).

### New Student & Family Programs

The Office of New Student & Family Programs connects students and their families to the University of Arkansas campus and community by providing diverse, innovative programs and resources that support a successful collegiate experience. The department supports and collaborates on the following major initiatives:

- Extended Orientation Programs: R.O.C.K. Camp, R.O.C.K. Camp Adventure, Hog W.I.L.D. (Welcome, Involvement, Leadership and Diversity) Welcome Weeks, and Help-A-Hog
- Parent & Family Programs: Family Weekend, Spring Family Reunion, Regional Parents Clubs and the Parent Partnership Association
- Leadership & Late Night Programs: UARK Cardinal Nights, Emerging Leaders, Student Leader of the Month, and Diversity Leadership Institute
- First Year Initiatives: New Student Welcome & Burger Bash, First Year Photo Project, Alpha Lambda Delta First Year Honor Society, and AlcoholEdu for College

By providing transitional support for incoming students, their parents, and family members, our programs effectively promote the students’ academic growth and support the mission of the university.

New Student & Family Programs is located in the Arkansas Union, Room A688; phone 479-575-5002; Web: [nsfp.uark.edu](http://nsfp.uark.edu).

### Office of Student Activities

With a students-first philosophy, the Office of Student Activities provides an environment for involvement, empowerment, and collaboration through student organizations, programmatic experiences, and shared governance. The office maximizes the UA experience by advocating for all students, promoting intercultural understanding, and developing citizens who are prepared to positively impact their communities.

The Office of Student Activities, located in the Arkansas Union A665, is the central location for student organizations and activities for the university. The office can be reached at 479-575-5255 or visit the office’s website at [osa.uark.edu](http://osa.uark.edu). The Office of Student Activities is responsible for the oversight and administration of the following areas:

### Student Organizations

All student organizations must register annually with the Office of Student Activities. The Office of Student Activities provides student organizations with assistance and services to help them succeed, including the annual Student Involvement Fair known as Razorbash, information on facility reservations and fund-raising, trademark forms, mailboxes, and locker space. The office also assists student organizations in event planning, provides educational workshops for students and advisers, and conducts retreats for student organizations. A limited number of offices are also awarded annually in the Arkansas Union to organizations.

Types of Registered Student Organizations (RSOs):

- **Governing** – An organization whose primary purpose is to serve as a governing body for a large or specific constituency of students.
- **Greek** – An organization with Greek letters who is a member of the National Inter-Fraternity Council, the Pan-Hellenic Council, National Pan-Hellenic Council, or the United Greek Council.
- **Honorary/Service** – An organization that requires a minimum grade point average as a prerequisite to membership and/or is affiliated with a national service or honorary organization.
- **International/Cultural** – An organization whose primary purpose is to provide a forum in which participants create awareness for a specific culture through educational, social, and recreational activities.
- **Professional** – An organization whose primary purpose is to provide a forum for participants to discuss and develop professional careers and/or is affiliated with a national or regional association.
- **Religious** – An organization whose primary purpose is to provide information and activities associated with one or more religions.
- **Special Interest** – An organization whose primary purpose is to provide an organized format for the practice and/or pursuit of a special or common interest.

## Associated Student Government

The Associated Student Government (ASG) provides important services to the university community and is an integral part of the shared campus governance system. Associated Student Government is a student-led organization that enables students to have an active voice in the decisions and policy that directly affect all students at the University of Arkansas. Students involved in Associated Student Government have the opportunity to positively impact the quality of student life, work with and allocate student fees, provide a voice for student concerns as well as oversee programs and policies for all students. Through the executive, legislative, financial, and judicial branches of student government, as well as through the Freshmen Leadership Forum Program, students have the opportunity to work for and among their peers to make a difference on all levels of the university. Involvement levels and time commitment vary upon duties. Visit the student government website at [asg.uark.edu](http://asg.uark.edu) or the Associated Student Government office (Arkansas Union A669) to find out more.

## University Programs

University Programs is a volunteer student organization responsible for planning and coordinating more than 100 events annually for the campus community. University Programs provides students with cultural and educational experiences, entertainment, and fun. Seven committees, all made up of students, select, schedule and produce events such as concerts, movies, lectures, fine arts performances, gallery exhibitions, and daytime programs. Being a part of University Programs gives the student committee members leadership training and real opportunities to gain practical planning experience. Supported by a student activity fee, University Programs events are free to students.

For further information, visit the University Programs website at [up.uark.edu](http://up.uark.edu).

## Career Development Center

The University Career Development Center educates and empowers students to fulfill their career goals. Students can take advantage of the center's valuable resources:

**Career Advising:** Career Counselors in the CDC are available to assist students who may need help selecting a college major, seeking career

information, researching or exploring careers, preparing for their job search, or considering graduate school.

**Career and Strength-Awareness Assessments:** The STRONG Interest Assessment, FOCUS 2 and TypeFocus are career assessments that can help students make career decisions based on their interests and values. StrengthsQuest is an assessment which helps individuals discover their talents and strengths. After discovering their talents, the Career Center assists students in learning how to use their talents to achieve academic, career, and personal success.

**Career Fairs:** In partnership with academic areas on campus, the CDC hosts a number of career fairs each year to provide opportunities for students to connect with employers and to learn more about companies and organizations. These connections could lead to valuable internships or full-time employment.

**Job Search Preparation:** The CDC offers resume critiques, interview skills training, mock interviews, networking opportunities, career presentations and several professional development events throughout the academic year to prepare students for internships, co-ops or full-time jobs.

**Cooperative Education Opportunities:** Cooperative Education is a program that enables students to gain professional work experience in paid, degree-related positions. Co-op students earn credit, a competitive wage and valuable "real world" work experience.

**Internet Job Search Resources:** Through the CDC's website, students are able to access a number of job search sites, including Razorback CareerLink. These resources enable University of Arkansas students to apply for jobs online and to sign up for on-campus interviews.

**Professional Development Institute:** This nationally recognized program creates opportunities for UA students to develop professional career-building skills. Participation in this program can help students gain the valuable skills which give them the competitive advantage in their job or graduate school search.

For more information, check out [career.uark.edu](http://career.uark.edu).

The University Career Development Center is conveniently located in Arkansas Union Room 607, or call 479-575-2805.

## Health and Wellness Center

The Pat Walker Health Center supports the University of Arkansas campus community on their way to wellness. The health center provides professional and comprehensive medical and mental health care, wellness support and health promotion for students, faculty, and staff.

The university strongly recommends all students maintain health insurance. A student health insurance policy is available to all students, student spouses and dependent children. Students may enroll in this plan at the Pat Walker Health Center or at [health.uark.edu](http://health.uark.edu).

With a diverse range of programs and services, the Pat Walker Health Center offers the university community an easy, convenient and affordable approach to health and wellness.

### Medical Care

The Pat Walker Health Center offers a variety of medical services provided by board-certified physicians and advanced nurse practitioners. The campus community has access to the following clinics:

- **The Primary Care Clinic** offers illness and injury diagnosis and treatment, laboratory services, minor surgery, nurse triage, nutrition consultations, orthopedic consultations and X-ray.
- **RazorCARE Clinic** is an easy and convenient walk-in clinic that provides quick diagnosis and treatment of minor illnesses, with no appointment necessary. RazorCARE Clinic generally sees patients with ears, eyes, nose, mouth and skin symptoms.
- **The Allergy, Immunization, and Travel Clinic** offers allergy desensitization, immunizations, international travel consultations and tuberculosis screenings.
- **The Women's Clinic** provides comprehensive gynecological services with sensitivity to the unique needs of female clients.

### **Mental Health**

Counseling and Psychological Services (CAPS) works with the university community to help develop and improve mental well-being. Fully accredited by the International Association of Counseling Services, CAPS addresses common mental health issues that impact students such as anxiety, depression and stress.

Staffed with licensed psychologists, counselors and social workers, CAPS offers a variety of services including counseling, group therapy, mental health crisis intervention and psychiatry.

To access CAPS services or 24-hour emergency services, call 479-575-5276.

### **Wellness and Health Promotion**

The department of Wellness and Health Promotion inspires, motivates, and supports student wellness and well-being through a variety of academic courses, outreach presentations and events, peer education and wellness coaching.

Based on a holistic approach to wellness, Wellness and Health Promotion helps the university community maximize their potential across eight essential elements of health and well-being – physical, mental, emotional, social, spiritual, occupational, environmental and financial. Using the principles of resilience and thriving, the university community has access to many engaging and interactive wellness programs and services.

### **Accreditation**

The Pat Walker Health Center is accredited by Accreditation Association for Ambulatory Health Care.

The center is located at 525 N. Garland Ave. If you have questions about specific services, call 479-575-4451; TTY 479-575-4124. Visit us online at [health.uark.edu](http://health.uark.edu).

## **Housing and Dining**

### **University Housing**

University Housing is committed to providing a safe, comfortable, convenient, and reasonably priced living and learning environment that promotes student success.

### **Success on Campus**

National research shows that academic success in the first year and beyond is directly linked to residing in an on-campus residence environment. The University of Arkansas recognizes the benefits that students receive from living on campus their first year.

### **Freshman Residency Requirement**

All single students who are admitted to the university with a freshman classification and under 21 years of age are required to live on campus in a residence hall, or in their parent or legal guardian's permanent home.

Students who are admitted to the University of Arkansas as transfer students from another post-secondary institution, and who have completed at least 24 credit hours at that institution are not required to live on campus.

Requests for a newly admitted freshmen to live somewhere other than with parents or a legal guardian in their permanent home will not be approved under most circumstances.

Students planning to live with their parents or legal guardian in their permanent home should complete the Living with Parent Notification form (<http://housing.uark.edu/Forms>) prior to attending an orientation session.

Students requesting an exemption from the University of Arkansas Freshmen Residency Requirement (<http://housing.uark.edu/Forms>) should send all required paperwork to University Housing at least three weeks prior to attending an orientation session. This ensures the student receives approval or denial prior to attending orientation.

Failure to do so could cause long delays in the orientation process. Students who need a Living with Parent Notification Form or who wish to apply for an exemption to the university's requirement for single freshmen to live on campus may refer to the information on the Housing website (<http://housing.uark.edu/Contracting/contracts.php>).

### **Residence Hall Leadership**

Residence Halls are managed by a full-time coordinator for residence education, or CRE, who has completed a master's degree program in higher education, counseling or a related degree. This individual is selected for his or her academic credentials and interest in helping others as well as his or her ability to work well with college students.

In addition, every area or floor is staffed by a resident assistant, or RA, who is an upper-class student with the knowledge to answer students' questions and help students find their own answers.

Counselors in residence (doctoral graduate assistants) provide short-term counseling for students living in the residence halls in response to personal, social, academic, and developmental needs.

### **Living Learning Communities**

University Housing offers several innovative Living Learning Communities ([http://housing.uark.edu/Residence\\_Education/Living\\_Learning](http://housing.uark.edu/Residence_Education/Living_Learning)), or LLCs, for students. These communities enhance student's academic success.

In an LLC, students get to live with peers who have similar interests, majors, or career plans. Living Learning Communities do not cost extra. LCC members have the opportunity to participate in fun experiences that connect learning in and out of the classroom.

Some of the initiatives include faculty-led events, major specific academic learning teams, more general thematic learning communities and other programs that assist students in their academic endeavors.

### **Living Facility Options**

Living options include traditional halls, suites and apartments with designations of single-gender or co-ed. Rooms are available for visually or

hearing-impaired students as well as those who are physically challenged (<http://housing.uark.edu/disability-accommodation.php>).

Residence hall entry/exit doors are secured and/or monitored 24 hours a day. Some entries are unlocked to accommodate offices housed in our facilities and classes that are held in our classrooms. Most, but not all, of these areas have interior doors that secure the living floors.

Residents are provided access via an electronic access system. Students should be careful not to allow non-residents to follow them into their residence hall. Residents are provided access via a fob issued when they check-in. Students are responsible for escorting all visitors and guests at all times.

## Campus Dining

Each of the three separate dining facilities ([http://housing.uark.edu/campus\\_communities/dining\\_rates.php](http://housing.uark.edu/campus_communities/dining_rates.php)) on campus is managed by Campus Dining Services and provides a natural setting for socializing with friends and enjoying a wide variety of high quality, nutritious meals. All students living in a residence hall, except those residing in summer school housing, are required to have a meal plan. There are several meal plans available to meet the needs of both on-campus and off-campus students.

Learn more about Campus Dining Services online at campus dining services (<http://dineoncampus.com/razorbacks>).

## Inclusion and Leadership Center for Multicultural and Diversity Education

The Center for Multicultural and Diversity Education provides academic, cultural and social programs intended to promote inclusiveness, foster achievement and assist in the development and advancement of a diverse student body.

The center is located on the fourth floor of the Arkansas Union in Room 404, and can be contacted at 479-575-8405 or by visiting [multicultural.uark.edu](http://multicultural.uark.edu).

## Student Support Services

The department of Student Support Services is designed to provide a powerful combination of programs and services to students who are first-generation, and/or modest-income, and/or individuals with disabilities. The services provided by Student Support Services place an emphasis on individual assessment, counseling, advising, and skill building. Some of these services include: academic/financial/personal counseling, financial scholarships, social etiquette instruction, career and graduate school preparation, academic/cultural enrichment, assistance with tutoring, and mentorship. The overarching goal of the University of Arkansas Student Support Services program is to empower students, assist them in achieving academic excellence, and seeing them through to graduation.

Student Support Services is a department in the Division of Student Affairs. The office is located on the Garden Level of Gregson Hall. For more details, call Student Support Services at 479-575-3546 or visit the Student Support Services website (<http://sss.uark.edu>).

## Talent Search

College Project, University Access and Educational Talent Search are early-intervention college preparatory projects. Serving more than 2,200 students in grades 6-12, the programs promote skills and information necessary for successfully completing a baccalaureate degree. With a developmental curriculum, staff prepare students to meet their college

goals by emphasizing leadership and career development, technological and academic skills, ACT readiness/payment assistance, college preparatory workshops, financial aid and scholarship information, financial literacy, and support for completing a rigorous high school curriculum.

Academic monitoring and advising are ongoing to guide and facilitate student progress.

Talent Search services are provided at participating schools on an outreach basis, while summer enrichment and campus-based events provide opportunities for institutional engagement. The programs are under the federal umbrella of "TRIO" and are grant-funded by the U.S. Department of Education. Eligibility requirements include but are not limited to having first-generation/low income status, exhibiting academic potential, and attending one of the 37 target schools served. For additional information, visit the Talent Search website (<http://talentsearch.uark.edu>).

Offices for the Talent Search program are at the university's Uptown Campus East, 1083 E. Sain Street, UPT 128, Fayetteville, Arkansas. Call 479-575-3553 for more information.

## Upward Bound

### Upward Bound and Upward Bound Math and Science

Upward Bound (<http://ub.uark.edu>) and Upward Bound Math and Science are early intervention programs that help low-income and potential first-generation college students prepare for higher education. These programs bring high school students in grades 9 – 12 to the University of Arkansas campus on weekends and during the summer to receive instruction in mathematics, laboratory sciences, composition, literature, and foreign languages. The programs also provide academic and social support through tutoring, counseling, mentoring, cultural enrichment, financial literacy, field trips, college planning, and financial aid assistance. For students just completing their senior year of high school, Upward Bound provides a summer residential bridge program that enables participants to earn up to six hours of college credit. Funding is provided through grants from the U.S. Department of Education.

### Veterans Upward Bound

Veterans Upward Bound (<http://vub.uark.edu>) is designed to identify and serve the unique needs of veterans who have the academic potential and desire to enter and succeed in a program of higher education. Eligible veterans must have completed a minimum of 180 days of active duty in the military or Coast Guard and hold any discharge other than dishonorable. Services include tutoring; guidance counseling; assistance in filing financial aid and VA benefit forms; academic/career advisement; test preparation for entrance exams; and courses in English, Spanish, math, science, and computer technology. Courses are offered days and evenings each semester. Funding is provided through a grant from the U.S. Department of Education. Call 479-575-2442 for more information.

The Upward Bound and Veterans Upward Bound offices are located at the university's Uptown Campus West, 1001 E. Sain Ave., Fayetteville.

## Student Life

### Reasonable Accommodations for Students with Disabilities

The Center for Educational Access (CEA), 209 Arkansas Union, is the central campus resource for students who require reasonable accommodations in order to access the programs, services and activities offered through the University. CEA staff work in partnership with the

individual student to communicate and facilitate any accommodation needs to faculty and staff. Accommodation determination is based in part on medical or psychological documentation provided to the CEA by the student. Students must meet with one of the CEA staff for an access plan meeting to discuss their needs and provide such documentation before any accommodations can be granted.

To register for services or for more information, contact the Center for Educational Access, University of Arkansas, 209 ARKU, Fayetteville, AR 72701, phone 479-575-3104 ; e-mail: [ada@uark.edu](mailto:ada@uark.edu); Web: Center for Educational Access (<http://cea.uark.edu>) (online request for services available).

## Off-Campus Student Services

As of May 16, 2016, Off Campus Connections will be known as Off-Campus Student Services. For information, visit the Off-Campus Student Services website (<http://occ.uark.edu>) or make an appointment to visit with a staff member in Arkansas Union Room 632. Off-Campus Student Services can also be reached by calling 479-575-7351.

Off-Campus Student Services provides friendly and helpful resources, services and programs for off-campus undergraduates with an emphasis in three main areas:

- Freshman Commuter Programs
- Non-Traditional/Adult Learner Support
- Off-Campus Living Education and Services

Off-campus students are defined as undergraduates not living in a residence hall, fraternity, or sorority house. The University of Arkansas has 15,400 undergraduates living off-campus. Some off-campus students live very near the university while others commute from hours away. Some students take advantage of online classes or majors and seldom visit campus.

Freshman Commuters are first-time, full-time, degree-seeking students who live at home with a parent or guardian during their first year of college. Off-Campus Student Services reaches out to approximately 500 freshman commuters each fall to share campus and academic resources, to provide opportunities to meet other cohort members, and to provide mentorship opportunities.

Non-traditional/adult learners are also supported by Off-Campus Student Services. Non-traditional undergraduate students may have children; be married; work full-time; or be older than traditional students. Because their needs are different, various support and recognition programs are in place to encourage those who may have competing interests or other responsibilities in addition to school.

Finding a place to live is a basic need for many students beyond their freshman year. To help meet these needs, a free, housing website, [offcampushousing.uark.edu](http://offcampushousing.uark.edu) is provided. The properties on the website have expressed a desire for student tenants. Off-Campus Living Fairs and educational resources are also offered to help those who are preparing to live on their own in the community. Off-Campus Meal Plans have also proven important to student success. Meal plans designed to meet students' needs are available for purchase through Chartwells Campus Dining Services. Having a meal plan encourages students to eat regular meals so they can better focus on academics. Meal plans are charged to a student's account, so costs may be covered with financial aid awards.

A friendly and comfortable Commuter Lounge with a refrigerator, microwave, television and study tables is located on the Sixth Floor

West of the Arkansas Union. Timely tips and information about jobs, deadlines, campus, and community life are shared through a weekly email newsletter. Off-Campus Student Services' desire is for each student living off-campus to feel an important part of the university, earn a degree, and have their name forever inscribed on Senior Walk.

## Office of Student Standards and Conduct

It is the vision of the Office of Student Standards and Conduct to foster a campus community that values citizenship, personal and civic responsibility, peer accountability, and care/concern for the university and surrounding communities.

The mission of the Office of Student Standards and Conduct (OSSC) is to create a safe and inclusive community by upholding the Code of Student Life, which promotes responsibility, accountability, and student learning through;

- Educational opportunities and outreach.
- The adjudication of Code of Student Life violations.
- Providing a consistent, fair, equitable, educational, student conduct process.
- The development of ethics and adherence to personal values.
- Education on the norms and values of the University of Arkansas.

Students who are interested in involvement with the All-University Conduct Board should contact the Director of OSSC at [judicial@uark.edu](mailto:judicial@uark.edu). The All-University Conduct Board comprises faculty, staff, and students and is responsible for the adjudication of cases of alleged student misconduct as outlined in the Code of Student Life. This board is an advanced leadership opportunity for students who would like to gain valuable experience working with faculty and staff on an impartial peer review board.

For more information regarding the Code of Student Life, please see the Student Handbook at [handbook.uark.edu](http://handbook.uark.edu). The Office of Student Standards and Conduct is located in Pomfret B 110, phone 479-575-5170; Web: [ethics.uark.edu](http://ethics.uark.edu).

## Veteran Resource and Information Center

The University of Arkansas Veterans Resource and Information Center contributes to the academic and professional success of current and prospective student veterans and their dependents by providing innovative resources and support; assisting with military educational benefits; and by serving as a central "Rally Point" for a seamless collaboration among various departments within the University of Arkansas, the U.S. Department of Veterans Affairs, and the diverse network of community partners supporting veterans.

Veterans and dependents of service members may be eligible to receive monthly educational assistance from the Veterans Administration while enrolled at the University of Arkansas. For more information, including GI Bill eligibility and scholarship opportunities, contact the Veterans Resource and Information Center at [vrvc@uark.edu](mailto:vrvc@uark.edu) or 479-575-8742. Students may also visit the center in Arkansas Union Room 603 or online at [veteranscenter.uark.edu](http://veteranscenter.uark.edu).

## Student Media

The Office of Student Media administers and advises the official student media outlets of the university. These outlets are: the student newspaper, *The Arkansas Traveler*; the University of Arkansas yearbook, *The Razorback*; the student magazine, *The Hill*; the student television station, UATV; and the student radio station, KXUA. All provide a forum for



student expression, entertainment, news and information of interest to the campus community. Other than a small support staff, these groups are entirely staffed by student employees and volunteers, including editors and station managers. For more information, contact Student Media at 479-575-3406.

## Centers and Research Units

Research programs are the means by which the university contributes to the generation of knowledge as well as to the preservation and dissemination of it. With nationally recognized programs in many areas and funding from government, industry, and other private sources, the research effort of the university is strong and diversified and provides special learning opportunities for students as discoveries are made.

In addition to the extensive work performed by faculty through individual and team efforts in academic departments, special programs of research are conducted by the university divisions described below.

Graduate students are likely to be involved in research conducted by these research units, but the university encourages undergraduates as well to pursue research in their areas of academic interest. Students who wish to engage in research of any kind should seek the guidance of their advisers and professors to identify research teams and projects. In addition to the extensive work performed by faculty through individual and team efforts in academic departments, special programs of research are conducted by faculty members and staff in many associated university research centers. The university invites students to learn more about these centers and the research opportunities they offer by visiting the websites or by contacting the individuals listed below.

## Applied Sustainability Center

Jon Johnson, director  
479-575-3556

The Applied Sustainability Center in the Sam M. Walton College of Business has a mission to coordinate research and education efforts across the campus with the aim of meeting current demands without compromising the needs of future generations. Some existing research areas are in agile agriculture, life cycle assessment, and reducing the carbon footprint of commercial products. Sustainability projects are undertaken in collaboration with a broad spectrum of businesses, governmental and not-for-profit organizations and academic partners.

## Arkansas Center for Space and Planetary Sciences

Larry Roe, director  
Mechanical Engineering Building, 204D  
479-575-3750  
csaps@uark.edu

Arkansas Center for Space and Planetary Sciences website (<http://spacecenter.uark.edu>)

The Arkansas Center for Space and Planetary Sciences is a research institute of the University of Arkansas, created by faculty from six departments, including Biological Sciences, Chemical Engineering, Chemistry and Biochemistry, Electrical Engineering, Geosciences, Mechanical Engineering, and Physics. Those departments, representing the J. William Fulbright College of Arts and Sciences and the College

of Engineering, work closely with the Graduate School and the Honors College.

The center operates world-class research facilities and cutting-edge research projects. It houses the only university-based, large-scale planetary simulation chamber in the country along with major facilities for the analysis of extraterrestrial samples. Major research interests include the analysis of returned samples from space, the nature of Mars, and instrumentation for use in space. The center also operates a number of programs of interest to the university community, grade school teachers and students, and the public.

The space center administers master's and doctoral degree programs in space and planetary science. These provide a unique integrative interdisciplinary education and research training based on a suite of core courses spread across the departments and specialist courses appropriate to the student's specific interests. Professional development in communications, ethics and space policy is also included. Such training gives graduates a competitive edge in today's space and planetary job market.

Additionally, the Departments of Biological Sciences, Geosciences and Physics offer space and planetary science as an option in their own graduate programs. Admission procedures are outlined on the space center Web site along with detailed information about the programs, the research areas, and current research projects.

## Arkansas High Performance Computing Center

Rick McMullen, director  
479-575-6794

Arkansas High Performance Computing Center website (<http://hpc.uark.edu>)

The Arkansas High Performance Computing Center is a campuswide provider of supercomputing resources for teaching and research by students and faculty. For nearly a decade, the university has strongly supported high-performance computing as a tool for enabling scientific discovery and making researchers more productive. With support from the university, the National Science Foundation and the state of Arkansas, the center has fielded two Top500 supercomputers and currently offers 4,985 cores, 13.4TB of memory, about 73 TFLOPS CPU peak performance, 93TB of long-term storage, 374TB of scratch storage, and 96TB of backup storage making it among the largest and most capable academic systems in the world. Staff members of the Arkansas High Performance Computing Center support a broad range of research programs in computational condensed matter physics, computational chemistry, nanotechnology and materials science, bioinformatics, astrophysics, and geospatial image analysis. The center also provides education and training in computational science, parallel programming and high-performance computer operations to provide both tools and skills needed in computationally intensive research.

## Arkansas Security Research and Education Institute

Jia Di, director  
523 J.B. Hunt Transport Services Center for Academic Excellence  
479-575-5728

Co-directors: Chase Rainwater, Steve Ricke and Dale Thompson

The University of Arkansas is well-positioned to become a leader in the state and nation in contributing to the research for security solutions and the training of students to become future security workforce. The Arkansas Security Research and Education Institute covers four research thrusts of security: cyber, transportation, critical infrastructure, and food and water. Working closely with local industry, the institute initiates and facilitates multidisciplinary collaborations among departments and colleges, leveraging the research strengths in existing on-campus centers such as the Center for Information Security and Reliability, the Mack-Blackwell National Rural Transportation Center, the Center for Excellence in Logistics and Distribution, the National Center for Reliable Electric Power Transmission, and Center for Food Safety among others.

## Arkansas Water Resources Center

Brian E. Haggard, director  
479-575-4403  
awrc@uark.edu

Arkansas Water Resources Center website (<http://www.uark.edu/depts/awrc>)

The Arkansas Water Resources Center, a unit of the Division of Agriculture, was established by Public Law in 1964. The Center utilizes scientific personnel and facilities of all campuses of the University of Arkansas System (and other Arkansas colleges and universities) in maintaining a water resources research program. The center supports specific research projects throughout Arkansas, which often provide research training opportunities for undergraduate and graduate students, and it disseminates information on water resources via publications and conferences. The center works closely with federal, state, municipal, educational, and other public groups concerned with water resources in development of its research, training, and dissemination programs.

## Bessie Boehm Moore Center for Economic Education

Rita Littrell, director  
RCED 217  
479-575-2855

Bessie Boehm Moore Center for Economic Education website (<http://bmcee.uark.edu>)

The Bessie Boehm Moore Center for Economic Education, established in 1978 and located in the Walton College of Business, promotes an understanding of the American economy among the people of Arkansas. Its major efforts are directed to elementary and secondary school children. The center's faculty and staff hold workshops and seminars for public school teachers, conduct research in economic education, develop instructional materials, maintain a lending library, and sponsor adult economic educational programs for business, labor, industry, and the general community. In recent years, center personnel have been involved in educating teachers in transitional or developing economies about market economics. The center is officially certified by the Arkansas Council on Economic Education and the National Council on Economic Education.

## Center for Advanced Spatial Technologies

Jackson Cothren, director  
J.B. Hunt Center for Academic Excellence, Room 304  
479-575-6159  
info@cast.uark.edu

Center for Advanced Spatial Technologies website (<http://cast.uark.edu>)

The Center for Advanced Spatial Technologies (CAST) focuses on application of geospatial technologies in research, teaching, and service. These technologies include geomatics, GIS, GPS, remote sensing, photogrammetry, geospatial software and systems design, interoperability, and large (multi-terabyte) geospatial databases.

Established in 1991, CAST is a unit of the J. William Fulbright College of Arts and Sciences. CAST has a campus-wide focus, working with the departments of anthropology; architecture; crop, soil, and environmental science; biology; bioengineering; civil and industrial engineering; geosciences; entomology; and landscape architecture. Other related partners include the Environmental Dynamics Program, the Arkansas Water Resources Center, Mullins Library, and the Arkansas Archeological Survey.

CAST has been selected as a Center of Excellence by many corporations, including the Intergraph Corporation, Trimble Navigation Inc., the Oracle Corporation, Definiens Imaging, Sun Microsystems, Spatial Acquis, and PCI Geomatics. These and other corporate sponsors have provided more than \$22 million of in-kind support of the research teaching facilities of the center. The center has extensive hardware and software capabilities, including more than 100 high-performance workstations, multiple Linux, Windows XP and Solaris servers (combined seven terabyte of on-line disk), large-format plotters, mapping and survey-grade GPS, MSS instruments, spectroradiometers, terrestrial laser scanners, and an extensive inventory of software.

University of Arkansas undergraduate and graduate students have a wide range of geomatics courses available to them that utilize CAST facilities and laboratories. These courses, taken along with related courses in cartography, remote sensing, image interpretation, photogrammetry, surveying, and spatial statistics, provide the student with a range of career options. In addition to classroom instruction, CAST facilities are used by students in both undergraduate and graduate research projects. The internship program in Applied Spatial Information Technologies offers students an opportunity to gain hands-on experience in geospatial technologies.

CAST staff are engaged in research projects in a wide range of areas. A few recent research projects focused on areas such as the creation of a seamless, on-line spatial data warehouse; K-12 GIS education; soil survey by remote sensing; land-use/land-cover identification; remote sensing for historic resources; natural resources wetlands analyses; multi-sensor remote sensing for historic resources; and predicting red oak borer populations.

## Center for Business and Economic Research

Mervin Jebaraj, interim director  
WJWH 545  
479-575-4151

cber@walton.uark.edu

Center for Business and Economic Research website (<http://cber.uark.edu>)

The Center for Business and Economic Research at the Sam M. Walton College of Business provides excellence in applied economic and business research to federal, state, and local government, as well as to businesses currently operating or those that desire to operate in the state of Arkansas. The Center further works to improve the economic opportunities of all Arkansans by conducting policy research in the public interest.

The Center was originally established as the Bureau of Business and Economic Research in 1943 to explore and report on economic, business, and social conditions in Arkansas. In addition to supporting research within the College, the Center supports economic development by providing economic and demographic data and analysis to business, government, and individuals. Over the years, the Center has grown to become a well-known point for communications and exchange of ideas, research, publications and data for universities, businesses, government, and individuals. In addition, the Center serves as a focal point in providing assistance to faculty and students in experimentation with their ideas and techniques in both theoretical and applied research.

## Center for Communication and Media Research

Robert H. Wicks, director  
KIMP 417  
479-575-3046  
rwicks@uark.edu

Center for Communication and Media Research website (<http://fulbright.uark.edu/departments/communication/center-for-communication-and-media-research>)

The Center for Communication and Media Research (CCMR) advances knowledge and supports scholarly and applied inquiry into the study of interpersonal, group, organizational, and media communication. The center sponsors outreach programs designed to help under-served populations, educational institutions, media companies, businesses, and non-profit organizations.

Multidisciplinary in nature, the center facilitates scholarship among allied disciplines such as journalism, law, business, political science, psychology, sociology, and computer science. Research topics include communication and advertising, dispute resolution, education, environmental concerns, family, health, information technology, legal concerns, life stages, media audiences, organizational concerns, politics, and religion.

## Center for Children and Youth

Chris Goering, director  
PEAH 305  
479-575-4209  
cgoering@uark.edu

Center for Children and Youth website (<http://cied.uark.edu/center-for-children-and-youth.php>)

The Center for Children and Youth is designed to address issues of intellectual growth, social development, literacy, the arts, and

techniques for addressing generational or regional poverty issues. This will be accomplished through teacher professional development, pre-service education, research, as well as curriculum development and dissemination. The center was established by a generous gift of the Windgate Family Foundation in 2006 to the College of Education and Health Professions.

In 2010, the Center for Children and Youth hosted a national conference in Springdale, Ark., focused on the confluence of literacy and the arts. The conference featured speakers from the Kennedy Center for Performing Arts, Temple University, the National Council of Teachers of English, and local experts on arts integration approaches to teaching. Later in 2010, Dr. Chris Goering in the Curriculum and Instruction Department was appointed as the center's first director.

## Center for Ethics in Journalism

Raymond McCaffrey,  
Director  
479-575-2626  
Email: [rmmccaff@uark.edu](mailto:rmmccaff@uark.edu)

Center for Ethics in Journalism website (<https://journalismethics.uark.edu>)

The Center for Ethics in Journalism of the Walter J. Lemke Department of Journalism at the University of Arkansas' J. William Fulbright College of Arts and Sciences fosters the study and practice of the journalistic principles of accuracy, fairness and service to the public in editorial/news; in broadcast, radio and television; and in advertising and public relations.

The University of Arkansas Center for Ethics in Journalism will play an integral role in shaping the future of journalism by educating students and professionals on the tenets of ethics, preparing them to employ those principles as a matter of course and teaching them to reach ethical decisions as routine and not exception.

## Center for Excellence in Engineering Logistics and Distribution

Manuel D. Rossetti, director  
BELL 4164  
479-575-6756

Center for Excellence in Logistics and Distribution website (<http://celdi.org>)

The Center for Excellence in Logistics and Distribution (CELDi) is a multi-university, multidisciplinary, National Science Foundation sponsored Industry/University Cooperative Research Center located in the Department of Industrial Engineering. CELDi emerged in 2001 from The Logistics Institute (1994) to provide integrated solutions to logistics problems, through research related to modeling, analysis, and intelligent-systems technologies. Research endeavors are driven and sponsored by representatives from a broad range of member organizations, including manufacturing, maintenance, distribution, transportation, information technology, and consulting. Partner universities include the University of Missouri, Clemson University, Virginia Tech and University of California Berkeley. This partnership among academic institutions and industry represents the effective integration of private and public sectors to enhance a U.S. competitive edge in the global market place.

CELDi helps industry partners excel by leveraging their supply chain to achieve a distinguishable, sustainable difference. Member companies realize a measurable return on their investment by creating competitive value chains in terms of cost and service quality. Through basic research, collaborative applied research with industry, technology transfer, and education, CELDi is a catalyst for developing the engineering logistics methodology necessary for logistics value chain optimization.

## Center for Executive Education

Therese Steifer, director  
RCED 140  
479-575-2856  
cmed@walton.uark.edu

Center for Executive Education website (<http://execed.uark.edu>)

The Center for Executive Education in the Sam M. Walton College of Business provides executive and middle management training opportunities designed to enhance quality in leadership, management decision making, and human resource skills and abilities for corporate and public clients. Programs are custom designed for individual clients. The center serves local, national, and multinational businesses. The center operates on a fee-for-service basis, and its activities are supported from fee-based revenues.

## Center for Information Security and Reliability

Brajendra Panda, director  
JBHT 504  
479-575-2067  
bpanda@uark.edu

Center for Information Security and Reliability website (<http://isr.csce.uark.edu>)

The center was established to promote education and research in the field of computer security and information assurance at University of Arkansas. The activities of this center includes, but not limited to the following: fostering multidisciplinary research, securing large-scale funding from federal, state, and other funding agencies, providing education and training to future work-force, increasing awareness in the field of information security and reliability by offering appropriate seminars and workshops.

## Center for Innovation in Healthcare Logistics

Ed Pohl, director  
BELL 4207  
479-575-6029

Center for Innovation in Healthcare Logistics website (<http://cihl.center>)

Founded in March 2007, the Center for Innovation in Healthcare Logistics is located in the Department of Industrial Engineering and is an industry-university partnership based at the University of Arkansas that leads a nationwide effort to identify and foster systemwide adoption of ground-breaking healthcare supply chain and logistics innovations. It has achieved a leading role in healthcare supply chain progress through:

- Intensive collaboration with a variety of healthcare providers, industry organizations, and healthcare supply chain leaders in vigorous data and opinion gathering, including pilot testing at partner sites.
- Objective engineering analysis of healthcare challenges and innovations, free of commercial or institutional interests, that leverages the university's broad background in engineering of logistics and supply chains.
- Avoiding "one-off" single-site investigations in favor of scalable projects with systemwide impact.
- Commitment to broad dissemination of findings from the center's investigations in presentations, reports and computer-based decision aids.

## Center for Interdisciplinary Study of Science and the Arts

Elizabeth Hellmuth Margulis, co-director  
ehm@uark.edu, 479-575-5763

Padma Viswanathan, co-director  
pviswana@uark.edu

The Center for Interdisciplinary Study of Science and the Arts seeks to advance cohesion in campuswide research and teaching that integrates science and the arts. The center will facilitate collaboration, provide an outlet for the dissemination of interdisciplinary work at the University of Arkansas, incubate ideas that introduce students to interdisciplinary modes of thinking, lend a unique identity to arts programs at the university, help attract top students whose interests often bridge science and the arts, and build on an existing strength on campus.

## Center for Mathematics and Science Education

Lynne Hehr, director  
346 N. West Avenue, No. 102  
479-575-3875

Center for Mathematics and Science Education website (<http://cmase.uark.edu>)

The Center for Mathematics and Science Education – a University of Arkansas K-16 education outreach facility within the College of Education and Health Professions – works in conjunction with the Arkansas Department of Higher Education as part of a network of twelve mathematics and science centers on university and college campuses around Arkansas. The main objectives of the center are to:

1. Provide science, mathematics and technology professional development for K-16 pre-service and in-service teachers;
2. Assist in statewide K-16 education initiatives;
3. Coordinate regionally beneficial grant-funded programs among universities and colleges for K-16 education;
4. Provide science, mathematics and technology educational materials, resources, and information to the K-16 community; and
5. Link common K-16 education allies throughout the state.

University Day, Science/Engineering Fairs, Springfest, and various K-16 teacher and student programs are conducted through the center. Day-to-day educational outreach information is sent to local, regional, and statewide constituencies through the center's website and various email

listservs. The Center for Mathematics and Science Education is a host site for the federally sponsored Eisenhower National Clearinghouse and the Southwest Educational Development Laboratory Consortium. The center also serves as the Arkansas National Aeronautics and Space Administration Educator Resource Center, responsible for warehousing and disseminating NASA materials and providing regular updates on NASA programs and materials to the state.

Web pages specifically designed to provide a wealth of material resources and information available for public, private and home-school educators across the state can be accessed at the website.

## Center for Power Optimization and Electro-Thermal Systems

The Center for Power Optimization and Electro-Thermal Systems is an engineering research center run by the University of Arkansas, the University of Illinois at Urbana Champaign, Stanford University and Howard University. These four universities include a multidisciplinary team that will create new paradigms for power flow in complex systems.

The center's long-term goal is to increase the power density of current mobile electrified systems by 10-100 times over current state-of-the-art systems. While ambitious, this would have a profound impact on a mobile electrified infrastructure of the United States and beyond. On-highway vehicles could save between 100-300 million liters of fuel per year and could nearly double the range of all-electric vehicles. Off-highway vehicles could save on the order of 100 billion liters of fuel since their electrification is starting from a less mature point than current on-highway vehicles. Similarly, aircraft could see 10-30 billion liters of fuel saved as well as prevention of up to 10 million tons of carbon dioxide from going into the high altitude atmosphere.

These economic and environmental impacts are just the beginning of the art of the possible with the achievement of the center's vision. This center is a multi-disciplinary center involving several fields of study including mechanical engineering, electrical engineering and physics. The center functions under the assumption that a single discipline could not achieve the goals set by this team and must integrate multiple disciplines and domains to achieve such success.

## Center for Protein Structure and Function

Frank Millett and Roger Koeppel, co-directors  
CHEM 119  
479-575-4601

Center for Protein Structure and Function Website (<http://fulbright.uark.edu/departments/chemistry/research/center-for-protein-and-structure>)

The Center for Protein Structure and Function is an interdisciplinary unit for research and teaching within the departments of chemistry/biochemistry and biological sciences in the J. William Fulbright College of Arts and Sciences. The center raises funds from federal, state, and private sources and sponsors faculty- and student-initiated basic research on the folded structures of protein molecules, their dynamic properties, and their diverse functions in biological systems. The center has been awarded funding from the National Science Foundation, the Arkansas Science and Technology Authority, and the National Institutes of Health.

## Center for Social Research

Casey Harris, co-director  
Patricia Herzog, co-director

Center for Social Research Website (<https://fulbright.uark.edu/departments/sociology/center-for-social-research>)

Since 1982 the Center for Social Research has provided research services to government agencies, communities and businesses. Located in the Department of Sociology, the center can conduct survey and public opinion research, impact assessment, evaluation and policy assessment. The center's staff can provide assistance with research methodology and design, sampling, data collection and analysis.

The center's professional staff has vast experience in virtually every aspect of social research. In addition, the center's resources include computer-assisted telephone interviewing facilities; extensive archival data holdings, including online access to the archival holdings of the Inter-University Consortium for Political and Social Research at the University of Michigan; and, in-house statistical analysis.

## Center for Statistical Research and Consulting

Joon Jin Song, director  
SCEN 309B  
479-575-6319  
[csrc@uark.edu](mailto:csrc@uark.edu)

The Center for Statistical Research and Consulting is a service and research unit of the University of Arkansas, administratively housed in Department of Mathematical Sciences, providing faculty and graduate students in the university with an environment for collaboration in research and instruction emphasizing statistical and quantitative approaches. It offers statistical consulting and statistical software support to faculty, staff, graduate and undergraduate students conducting research at the university. The center will extend this statistical support to the state of Arkansas, directly providing some consulting services but primarily acting as a conduit for industry, government, and non-profit organizations to engage campus faculty and graduate students in consulting opportunities. The community support activities from the center will stimulate and enhance campus research and instructional efforts as well as provide important services to organizations throughout the region.

The mission of the Center for Statistical Research and Consulting is to participate in research to provide high quality statistical input to high quality research projects, train statisticians to interact effectively with investigators from other disciplines, and encourage collaborative research between statisticians and investigators from other disciplines.

The center is a fee-for-service unit. The initial consulting meeting with a client is provided at no cost. All subsequent and follow-up visits will require financial support.

## Center for Utilization of Rehabilitation Resources for Education, Networking, Training and Services

Jeanne Miller, director  
105 Reserve St., Building 35

Hot Springs, AR 71902  
501-623-7700

CURRENTS website (<http://www.uacurrents.org/default.aspx>)

Established in 1974, this center provides human resource and organization development services for a broad audience in the rehabilitation and disability communities. Projects managed by CURRENTS vary in scope from state and local to regional and national levels. The center is housed at the Hot Springs Rehabilitation Center, Hot Springs, Ark.

## Center of Excellence for Poultry Science

Michael Kidd, director  
POSC 114  
479-575-3699

Center of Excellence for Poultry Science website (<http://www.poultryscience.uark.edu>)

With designation by the University of Arkansas Board of Trustees to make poultry science a center of excellence in the state's university system, the department of poultry science became a reality in 1992.

The Center of Excellence for Poultry Science is comprised of full-time poultry science faculty members, full-time USDA/ARS Poultry Research Group faculty members, graduate assistants, adjunct faculty, and poultry science departmental staff. The center receives multidisciplinary contributions from several university departments including animal science; biological and agricultural engineering; biological sciences; crop, soil, and environmental sciences; entomology; food science; industrial engineering; the School of Human and Environmental Sciences; and the UALR College of Pharmacy.

The Department of Poultry Science and the research group are housed in the John W. Tyson Building, which is a 112,000-square-foot, state-of-the-art laboratory and office complex that was completed the fall of 1995 on the U of A campus. In addition to the John W. Tyson Building on the main campus, the Center of Excellence for Poultry Science comprises the following facilities:

- FDA-licensed feed mill;
- 10,000-square-foot processing plant used for teaching processing techniques and for ongoing food safety research projects;
- 12,000-square-foot John Kirkpatrick Skeeles Poultry Health Laboratory, which holds the highest bio-safety rating (P3) available in the country;
- A poultry research farm facility including hatchery, genetics unit, pullet-rearing facility, battery brooder, caged layer house, broiler breeder houses and turkey houses;
- Four full-sized broiler houses equipped with computerized environmental control and data collection systems capable of commercial-type production research; and
- A broiler breeder research facility that includes two full-size broiler breeder houses, a pullet-rearing facility, and quality assurance building with offices, classroom, and egg holding capacity.

## Chemical Hazards Research Center

Jerry Havens, director  
BELL 3157  
479-575-3857  
[jhavens@uark.edu](mailto:jhavens@uark.edu)

Chemical Hazards Research Center website (<http://www.cheg.uark.edu/4444.php>)

The Chemical Hazards Research Center determines the consequences of atmospheric release of potentially hazardous materials with a present emphasis on liquefied natural gas in transportation and storage operations. Computational models are used in conjunction with the wind tunnel at the center, which is presently the largest low-speed wind tunnel suited for such studies.

## Community Design Center

Stephen Luoni, director  
104 N. East Ave., Fayetteville, AR 72701  
[uacdc@uark.edu](mailto:uacdc@uark.edu)

U of A Community Design Center website (<http://uacdc.uark.edu>)

The mission of the University of Arkansas Community Design Center is to advance creative development in Arkansas through education, research, and design solutions that enhance the physical environment. As an outreach center of the Fay Jones School of Architecture and Design, the Community Design Center is developing a repertoire of new design methodologies applicable to community development issues in Arkansas, with currency at the national level. The center's design solutions introduce a multiple bottom line, integrating social and environmental measures into economic development. Integrative design solutions add long-term value and offer collateral benefits related to sustained economic capacity, enhanced ecologies, and improved public health. The design center also offers hands-on civic design experience to students who work under the direction of design professionals. The University of Arkansas Community Design Center was founded in 1995 and has provided design and planning services to more than 30 communities across Arkansas. The design center's planning has helped Arkansas communities and organizations to secure nearly \$62 million in grant funding to enact suggested improvements.

## Cybersecurity Center on Secure, Evolvable Energy Delivery Systems

Alan Mantooth  
Director  
Bell Engineering 3175  
479-575-7962  
[mantooth@uark.edu](mailto:mantooth@uark.edu)

Shannon Davis  
Managing Director  
CSRC 232  
479-575-6877  
[sgdavis@uark.edu](mailto:sgdavis@uark.edu)

The Cybersecurity Center on Secure, Evolvable Energy Delivery Systems researches and develops innovative cybersecurity technologies, tools and methodologies to advance the energy sector's ability to survive cyber attacks and incidents while sustaining critical functions. The center verifies and validates efficacy of the developed solutions and methodologies for transition to practice and commercialization in the energy sector. These solutions and methodologies will enhance the resilience of energy delivery infrastructure, which includes the electricity sub-sector and the oil and natural gas sub-sector.

The specific technical areas of research and development will focus on five areas:

- Secure grid control and operations.
- Secure emerging power grid components and services.
- Secure energy delivery system operation technology infrastructure.
- Cybersecurity management and visualization.
- Cybersecurity testing and validation.

## David and Barbara Pryor Center for Arkansas Oral and Visual History

Randy Dixon, director  
East Square Plaza  
1 East Center Street, Suite 216  
479-575-6829

Pryor Center website (<http://pryorcenter.uark.edu>)

The mission of the Pryor Center for Arkansas Oral and Visual History is to document Arkansas' rich history by collecting the "living memories" of those who have been witness to various aspects of the state's past. Using traditional oral history methodology, the center interviews individuals, transcribes those interviews, and maintains those collections for future generations. The center is responsible for preserving these memories and making them available to scholars and researchers interested in the culture and heritage of Arkansas. The center is located in East Square Plaza on the east side of the Fayetteville Square; to contact the center, call 479-575-6829, or visit the website.

## Diane D. Blair Center of Southern Politics and Society

Angie Maxwell, director  
MAIN 506-A  
479-575-3356

Blair Center website (<https://blaircenter.uark.edu>)

The Blair Center, located in the Department of Political Science, is dedicated to fostering political scholarship, public service, civic consciousness, and the study of Southern politics, history and culture. The center supports graduate students studying topics relevant to the South and hosts conferences and periodic speakers discussing issues relevant to Southern politics and society.

## Exercise Science Research Center

HPER 321  
479-575-6762

[exercise@uark.edu](mailto:exercise@uark.edu)

[exercisescience.uark.edu](http://exercisescience.uark.edu)

The Exercise Science Research Center is a student-centered facility with a unique dual purpose that includes research and educational components. Faculty from the kinesiology and exercise science programs coordinate research efforts of the center, which initiates and conducts research focused on health, exercise and physical performance. The center also provides education outreach programs for targeted groups with an emphasis on collaborative and cooperative programs with agencies in Arkansas and the region. The center also provides educational experiences for undergraduate and graduate students in the exercise science and kinesiology programs.

## Family and Community Institute

Kevin Fitzpatrick, director  
MAIN 211  
479-575-3777  
[kfitzpa@uark.edu](mailto:kfitzpa@uark.edu)

Family and Community Institute website (<http://sociology.uark.edu/3550.php>)

The Family and Community Institute is a joint effort of the University of Arkansas and the Harvey and Bernice Jones Center for Families in Springdale, Arkansas. The institute is a multidisciplinary research center in the J. William Fulbright College of Arts and Sciences that conducts basic and applied research, as well as policy-related studies on the critical issues facing families and communities in the region and the nation. The institute raises funds from federal, state, and private sources and sponsors applied research by faculty and students on the family and the community.

## Garrison Financial Institute

Wayne Lee, executive director  
RCED 205  
479-575-4505

Garrison Financial Institute website (<http://gfi.uark.edu>)

The Garrison Financial Institute is an institute organized within the Sam M. Walton College of Business to advance financial education and knowledge through practice. Its mission is to enhance student learning through experience, foster research that extends and perfects best practices, and contribute to the economic development of the State of Arkansas and the welfare of its citizens. The center was founded in 2005.

## Garvan Woodland Gardens

Bob Byers, garden director  
550 Arkridge Road, PO Box 22240  
Hot Springs National Park, AR 71913  
1-800-366-4664  
[gardeninfo@garvangardens.org](mailto:gardeninfo@garvangardens.org)

Garvan Woodland Gardens website (<http://www.garvangardens.org>)

Garvan Woodland Gardens is the botanical garden of the University of Arkansas, established in 1993 by an endowment from Mrs. Verna C. Garvan. Her vision is the foundation of the Garden's mission to serve the public and provide teaching and research opportunities for the

Department of Landscape Architecture and the Fay Jones School of Architecture and Design.

As early as 1985, the Department of Landscape Architecture was utilizing portions of the 210 acres on Lake Hamilton, in Hot Springs, AR, as a resource to teach local ecology and design principles. Teaching opportunities continue in these areas and currently feature urban forestry, wetland ecology, construction methods and materials, design implementation, and horticulture. Numerous designed features offer case studies for landscape architecture and architecture students as well as professionals, including the Asiatic Garden by David Slawson, a nationally recognized Japanese garden designer, and the Verna C. Garvan Pavilion, by internationally recognized architects Fay Jones and Maurice Jennings.

Research opportunities lie in wetland ecology and constructed wetland design, sustainable design, and therapeutic gardens. Ongoing public programs feature workshops on gardening techniques, bonsai collections, and perennials.

An annual symposium focuses on timely issues affecting the quality of life of people in Arkansas and the nation. Past topics include historic landscape preservation practice in Arkansas and sustainable golf course design.

Garvan Woodland Gardens is a member of the American Association of Botanical Gardens and Arboreta.

## High Density Electronics Center

Simon Ang, director  
HiDEC/ENRC 700  
479-575-4627

HiDEC website (<http://www.hidec.uark.edu>)

The High Density Electronics Center (HiDEC) was established in 1991 as an interdisciplinary research program in advanced electronic packaging technologies, particularly the rapidly developing technology of multichip modules (MCMs), which allow electronic systems to be small, fast, and cheap.

With generous support from the Defense Advanced Research Projects Agency (DARPA), a large clean room was constructed, and an MCM fabrication facility, unique among universities, was installed. Current research programs focus on 3-D electronic packaging, high density laminate substrates, co-fired ceramic substrates for wireless applications, high temperature superconducting (HTSC) tunable filters, micro electromechanical systems (MEMS), and integrated passives development. The program is located in the Department of Electrical Engineering but involves faculty from six departments and more than 25 graduate students. Continuing funding comes from DARPA and several industrial sponsors. Significant national recognition has resulted from work performed at HiDEC.

HiDEC also houses the Center of Excellence for Nano-, Micro-, and Neuro-Electronics, Sensors and Systems (CENNESS).

## Information Technology Research Institute

Eric Bradford, managing director  
JPHT 409  
479-575-4261

Information Technology Research Institute website (<http://itri.uark.edu>)

The Information Technology Research Institute is an interdisciplinary unit for research within the Sam M. Walton College of Business. The mission of the institute is to advance the state of research and practice in the development and use of information technology for enhancing the performance of individuals and organizations; provide a forum for multidisciplinary work on issues related to information technology; promote student interest in the study of information technology; and facilitate the exchange of information between the academic and business communities. The Information Technology Research Institute was established by a grant from the Walton Family Charitable Support Foundation.

## Institute for Advanced Data Analytics

David Douglas, co-director  
479-575-6114

Wanpracha Chaovalitwongse, co-director  
479-575-5857

Mark Arnold, co-director  
479-575-3351

Stored data doubles every two to three years and without extracting actionable value from the data, it serves as only an expense. Data analytics are the key to extracting value from the data. The application of analytics is the key basis for competition driving innovation and productivity growth. In response to the demand for this data ecosystem, a number of units on campus are conducting research related to data analytics and big data. The Institute for Advanced Data Analytics takes statistics and analytics to the next level, serving as the catalyst for big data research, innovation, and practice by partnering with organizations seeking solutions to their data problems. The institute's vision is to initiate and facilitate multidisciplinary collaborations among departments, colleges, and industry partners to help solve the emerging data and analytics research problems and implementation opportunities. Faculty and students at the institute work on these problems and opportunities.

## Institute for Nanoscience and Engineering

Gregory Salamo, director  
NANO 104  
479-575-4187

Institute for Nanoscience and Engineering website (<http://nano.uark.edu>)

The Institute for Nanoscience and Engineering is based in the Nanoscale Material Science and Engineering Building, opened in 2011 with the state-of-the-art equipment and clean rooms necessary for building materials one atom at a time. The institute provides an interdisciplinary team of researchers in the fields of physics, engineering, chemistry and biology whose mission, in part, is to develop businesses in Arkansas based on nanoscience and engineering.

## Institute of Food Science and Engineering

Jean-Francois Meullenet, director  
Food Science Building



2650 N. Young Ave., Fayetteville, AR 72704  
479-575-4040

Institute of Food Science and Engineering website (<http://www.uark.edu/depts/ifse>)

The Institute of Food Science and Engineering and its three technology centers grew from the commitment of the University of Arkansas Division of Agriculture to finding creative ways to bring its expertise and resources to bear on specific problems and issues that affect productivity and growth in the food processing industry, with the mission of strengthening that critical component of the agricultural sector and the entire economy.

The institute assists industry by fostering cooperative, multidisciplinary efforts that provide research to solve problems, technology transfer to put new information to work, and education in skills needed by specific industries. Alliances between the institute and private industry devise solutions to identified problems. This demand-driven approach assures a direct, positive impact on the value-added processing of food products.

The Center for Food Processing and Engineering's primary objective is to facilitate research leading to value-added products and improving the efficiency and effectiveness of the processing of agricultural products. Activities of the Center for Food Safety and Quality seek to maintain or improve the safety of foods through production, harvest, processing, distribution, and storage. The main thrust of the Center for Human Nutrition is to develop new value-added functional foods with elevated levels of health-promoting compounds and ways to motivate people to include generous amounts of these foods in their daily diets. These efforts will assure food safety and improve the sensory and nutritional quality of food to meet the nutritional requirements and food preferences of a changing society.

The offices of the Institute of Food Science and Engineering are located in the Food Science Building at the Arkansas Agricultural Research and Extension Center.

## International Center for the Study of Early Asian and Middle Eastern Musics

Rembrandt Wolpert, director  
MUSC 201  
479-575-4701  
[ceam@cavern.uark.edu](mailto:ceam@cavern.uark.edu)

International Center for the Study of Early Asian and Middle Eastern Musics website (<http://www.uark.edu/ua/eam>)

The International Center for the Study of Early Asian and Middle Eastern Musics, established in 2000, is a research center located in the Department of Music in the J. William Fulbright College of Arts and Sciences.

The center coordinates the international Tang Music Project and is linked with the Ancient Asian Music Preservation Project of the Library of Congress, a partnership that includes internships at the Library as well as an acquisitions program. The center also functions as the base for graduate training in historical ethnomusicology and related fields, specifically tailored toward early documented repertoires of ritual- and art-music and present day performance practices in historically significant musical traditions of Asia and the Middle East. The recovery of early Asian musics and the design of music-centered algorithms and their

implementation in computer programs are central aspects of the center's research and teaching activities. The center works closely with both the Department of Music and the King Fahd Center for Middle East and Islamic Studies in sponsoring lectures, seminars, concerts, and workshops, and it collaborates in developing international ties to other institutions and in promoting student and performing-artist exchanges. For more information, contact Elizabeth Markham or Rembrandt Wolpert at 479-575-4702.

## King Fahd Center for Middle East Studies

Todd Shields, interim director  
MAIN 202  
479-575-2175

King Fahd Center for Middle East Studies website (<http://mest.uark.edu>)

The King Fahd Center for Middle East Studies is an academic and research unit in the J. William Fulbright College of Arts and Sciences. It is an interdisciplinary and interdepartmental area studies center that offers diverse cultural, intellectual, and educational opportunities for the University of Arkansas community. Its functions include the promotion of research and teaching in interdisciplinary Middle East studies and global Islamic studies.

Through the King Fahd Middle East Studies Program, the center offers an undergraduate major in Middle East studies and supports graduate studies in Middle East-related departments and programs. Students of superior ability who are majoring in Middle East studies may apply for MEST scholarships to help fund their studies. The center also supports summer language study and research assistantships for graduate students and teaching and research by visiting scholars from affiliated universities and programs.

Through its core faculty, the center coordinates with university departments to offer a full range of Middle East courses, supports faculty research in Middle East and Islamic studies, engages in outreach activities, and supports an ambitious program of visiting speakers and workshops. The King Fahd Center currently maintains relationships with universities in Saudi Arabia, Jordan, Morocco, Tunisia, and Russia. The center also cooperates with the Aga Khan Humanities Program in Central Asia, the Middle East Institute in Washington, D.C., and the Elijah Center for the Study of Wisdom in World Religions in Jerusalem.

## Mack-Blackwell National Rural Transportation Study Center

Heather Nachtmann, director  
BELL 4190  
479-575-5857

Mack-Blackwell National Rural Transportation Study Center website (<http://mackblackwell.uark.edu>)

The Mack-Blackwell National Rural Transportation Study Center was established by a grant from the U.S. Department of Transportation to provide educational opportunities and conduct research in the area of rural transportation. Additional support is received from the Arkansas Highway and Transportation Department.

The broad objective of the center is to improve the quality of life in rural areas through transportation. The educational objective is to provide

graduates qualified to enter the transportation-related professions with the diversity of backgrounds needed to lead transportation development in the 21st century. Although housed within the Department of Civil Engineering, the Mack-Blackwell Center's activities are not limited to engineering. All disciplines related to or impacted by transportation participate in the center's research and educational activities.

## Maritime Transportation Research and Education Centers

Heather Nachtmann  
MarTREC Director  
Bell 4190  
Phone: 479-575-6021

martrec@uark.edu

The Maritime Transportation Research and Education Centers' theme is building economic competitiveness through efficient, resilient, and sustainable maritime and multimodal transportation systems. The centers' vision is to be recognized as the nation's premier source for expertise on maritime and multimodal transportation research and education. The MarTREC consortium consists of renowned maritime transportation researchers dedicated to transferable research and inclusive education and workforce development.

Maritime and multimodal transportation research is a national priority that is critical to future economic competitiveness. Waterborne freight directly and indirectly contributes to U.S. economic growth by contributing to economic value, earnings, and employment. The nation's waterways are used to transport approximately 20 percent of America's coal, 22 percent of U.S. petroleum products, and 60 percent of the nation's farm exports. Better information about economic benefits of waterborne freight can inform private and federal investment in port development and infrastructure improvements, which can increase competitive advantages without negatively affecting social and environmental outcomes.

It is anticipated that transportation agencies and private industry will be increasingly challenged to find highly qualified and technically trained employees in the coming years due to increased retirement rates, fewer entrants into the transportation field, and increased competition for skilled labor, engineers, and planners. The U.S. Department of Transportation-funded 21st Century Workforce Development Summit expressed concern that transportation agencies could face a workforce loss up to 50 percent by 2020. MarTREC is dedicated to transportation education and workforce development.

## Membrane Research Center

Ranil Wickramasinghe  
Director  
Bell Engineering 3151  
swickram@uark.edu

The mission of the University of Arkansas Membrane Research Center is promotion of educational and training opportunities in membrane science and technology especially for graduate students. Graduate students in the master's and doctoral programs will form the backbone of all research teams at the Membrane Research Center, and graduate students will conduct their thesis research through center projects.

A feature of the center's research projects is that every project will have at least one of the center's industrial sponsors as a project mentor.

The University of Arkansas Membrane Research Center will:

- Conduct fundamental and applied research in the field of membranes via innovative materials and processes to facilitate the use of membrane technology for current and emerging industrial applications.
- Help sustain U.S. technological leadership in membrane materials and membrane-based separation processes and accelerate commercialization by Center sponsors of novel, sustainable and innovative technologies.
- Provide undergraduate, graduate and postdoctoral researchers with a superior educational and research experience that will enable them to become productive and effective professionals in the membrane community.

An underlying emphasis in all of these efforts is the understanding that new membrane technologies will lead to enhanced sustainability in our technological operations.

## National Agricultural Law Center

Harrison Pittman, director  
WATR 107  
479-575-7646  
nataglaw@uark.edu

National Agricultural Law Center website (<http://www.NationalAgLawCenter.org>)

The National Agricultural Law Center is a federally funded agricultural law research and information center located at the University of Arkansas School of Law. Created in 1987, the center fulfills its mission by conducting and sponsoring objective and authoritative agricultural and food law research and by providing bibliographic and other resources on agricultural and food law.

The center works closely with the UA School of Law Graduate Program in Agricultural Law, an academic program that awards the Master of Laws degree in Agricultural Law. Selected students in the graduate program serve as research fellows at the center during their residency in the graduate program.

The center is the only one of its kind in the United States and has received national recognition. It recently enhanced its national reach by establishing a collaborative relationship with the Agricultural Law Center at Drake University School of Law in Des Moines, Iowa.

Publications and research assistance are available in print and through the website.

## National Center for Reliable Electric Power Transmission

Alan Mantooth, executive director  
2055 South Innovation Way  
479-575-4838

National Center for Reliable Electric Power Transmission website (<http://ncrept.uark.edu>)

The National Center for Reliable Electric Power Transmission in the College of Engineering is located in a new building at the Arkansas Research and Technology Park. The center seeks to research and develop prototypes of advanced power electronics systems for

applications in the power grid, including both protection and storage devices.

The center also serves as a test facility for advanced power electronic circuit and package designs for distribution-level voltages and high currents. The center is a unique educational resource for students interested in working in the power utility and power electronics sectors.

## National Office of Research, Measurement, and Evaluation Systems

Sean Mulvenon, director  
WAAX 302  
479-575-5593  
orme@cavern.uark.edu

The Office of Research, Measurement, and Evaluation, organized in 1998, is a research and service unit in the College of Education and Health Professions in the Department of Curriculum and Instruction. Its mission includes the analysis and dissemination of data to facilitate school improvement and reform in Arkansas. The faculty and staff of the office offer expertise in the areas of educational statistics, test and measurement theory, research design, standardized assessment, program evaluation, and policy analysis. The mission of the office is to conduct targeted educational research, drawing on the talents of faculty from several disciplines. The research conducted through the office addresses significant issues affecting the educators and students of the public schools of the state.

## Office for Studies on Aging

Michelle Gray and Barbara Shadden, co-directors  
HPER 321X  
479-575-5262  
aging@uark.edu

Office for Studies on Aging website (<http://coehp.uark.edu/osa>)

The Office for Studies on Aging in the College of Education and Health Professions was established in August 1999 to coordinate the resources of the university in addressing the needs of the aging population in Arkansas and beyond. The office was developed to be the center for research and study of the physical, social, and psychological aspects of the aging process drawing on a host of disciplines across campus. The office conducts research, provides services, and acts as an interface between the university and the variety of service modalities for the aging population. Initial efforts of the office are directed toward a variety of issues facing older Americans to provide meaningful solutions so that the process of aging is a positive experience, both emotionally and physically.

## Office of Education Policy

Gary Ritter, director  
201 Graduate Education Building  
479-575-3773

[www.officeforeducationpolicy.org](http://www.officeforeducationpolicy.org) (<http://www.officeforeducationpolicy.org>)

The Office of Education Policy serves as a resource to state lawmakers, educators, administrators, and other leaders, providing them with current national, state, and regional research in education to support them in thoughtful decision-making concerning K-12 education in the state of

Arkansas. The Office of Education Policy strives to look at pressing issues through the lens of academic research, bridging the gap between research and practice.

## Small Business and Technology Development Center

Larry Brian, director  
RCED 210  
479-575-5148

Small Business and Technology Development Center website (<http://sbtfdc.uark.edu>)

The Walton College Arkansas Small Business and Technology Development Center is part of a national network of more than 1,000 small business development centers that provide small business training seminars, as well as free market research and consulting services from three full-time business consultants to startup and existing small businesses. The Arkansas system also provides the services of a free innovation and technology consultant for the state. The Walton College center operates as a regional office of the Arkansas Small Business and Technology Development Center half funded by the United States Small Business Administration and the Walton College located in the Donald W. Reynolds Center for Enterprise Development.

The Arkansas system serves all of Arkansas through the University of Arkansas at Little Rock's lead center and six regional offices located on college campuses throughout the state of Arkansas. Any for-profit small business intending to locate or currently located within the Walton College center's service area may receive free assistance. This center serves the following counties: Benton, Boone, Carroll, Madison, Marion, Newton, Searcy, and Washington.

## Supply Chain Management Research Center

John Kent, director  
WJWH 544  
479-575-6107  
jkent@walton.uark.edu

Supply Chain Management Research Center website (<http://scmr.uark.edu>)

The Supply Chain Management Research Center at the Sam M. Walton College of Business sponsors and promotes supply chain, logistics, and transportation research and education. Center faculty view the supply chain as the channel that integrates business processes from suppliers through end users, providing value-added products, services, and information. Supply chain management incorporates both inter- and intra-company logistics, transportation, and management systems.

The center undertakes research and training in all aspects of the supply chain. It has sponsored research on vendor-managed inventory, trained salespersons and developed systems for material requirements planning, and simulated supply chains for logistics executives. The center has a broad range of interests and capabilities and has close ties to and cooperative programs within the Walton College, such as the Center for Retail Excellence, the Information Technology Research Center and other centers at the university, such as the Logistics Institute in the College of Engineering. The Supply Chain Management Research Center is unique

in that its capabilities span the technical and managerial arenas of supply chain management.

The center's Board of Directors includes representatives of firms such as ABF Freight Systems, American Freightways, Colgate-Palmolive, Federal Express, J.B. Hunt Transport, Pillsbury, Sunbeam, Tyson Foods, Unilever HPC, and Wal-Mart. The Board of Directors, along with notable supply chain professionals from business and academia, meet annually to discuss the state of the art in supply chain management and to provide advice and direction for the center.

For additional information about the Supply Chain Management Research Center at the Sam M. Walton College of Business contact the center at 479-575-7334.

## **Terrorism Research Center**

Brent L. Smith, director  
MAIN 228  
479-575-3401  
bls@uark.edu

Terrorism Research Center website (<http://trc.uark.edu>)

The Terrorism Research Center in the J. William Fulbright College of Arts and Sciences houses the American Terrorism Study, the nation's only comprehensive longitudinal database on American terrorism. Conducted in cooperation with the Federal Bureau of Investigation and sponsored by the U.S. Senate Judiciary Committee, the American Terrorism Study provides a record of federal terrorism cases resulting from indictment under an FBI "terrorism enterprise" investigation from 1980 to the present. The center is also engaged in several projects examining the spatial and temporal dimensions of terrorism, precursor and preparatory terrorist crimes, and prosecutorial and defense strategies in terrorism trials. The center's research is funded by the Department of Homeland Security through the Memorial Institute for the Prevention of Terrorism and the Department of Justice through the National Institute of Justice.

## **Tesseract Center for Immersive Environments and Game Design**

David Fredrick, director  
J.B. Hunt Center for Academic Excellence, Room 255  
479-308-8362  
tesseract.uark.edu

The core mission of the Tesseract Center is to create immersive, real-time visualization environments and serious games for instruction and research. The center will be fundamentally interdisciplinary, with collaborative projects and affiliated faculty from colleges across the University of Arkansas campus. The center provides the infrastructure to develop and support new academic endeavors including new academic and outreach programs, as well as an engine for innovation, entrepreneurship, and economic development through the creation of intellectual property and the fostering of connections with industry and corporations.

## **Tyson Center for Faith and Spirituality in the Workplace**

WJWH 518  
479-575-3721

jan002@uark.edu

Tyson Center for Faith and Spirituality in the Workplace website (<http://tfsw.uark.edu>)

The center's vision is to be recognized as an international center networked with other international centers, where students, academics, practitioners, business leaders and faith leaders come together to understand the effects of faith and spirituality in the workplace and develop methodologies to help transform organizations in a way that has a positive impact on the world. The center teaches courses on faith and spirituality in the workplace, provides resources to businesses and community, and maintains a database of relevant research, including conducting its own case studies.

The Tyson Center for Faith and Spirituality in the Workplace was established by a grant from Tyson Foods Inc. and the Tyson Family Foundation in 2009.

# Undergraduate Catalog

This catalog of studies is a comprehensive reference for your years of study – a list of degrees and courses offered at the University of Arkansas. In addition, it gives you valuable information such as suggested and required degree plans and information about costs, scholarships and financial assistance, and campus resources. Read it with pleasure and with care.

Take every opportunity to consult your academic adviser to ensure that you are taking advantage of courses and university resources that will help you reach your educational and career goals and graduate on time. If you are not sure where to find your academic adviser, contact the dean's office of your college; the phone numbers are listed under Contact Information (p. 35). If your major is "undecided," contact the advising office in the J. William Fulbright College of Arts and Sciences at 479-575-3307.

Remember, the University of Arkansas is committed to your success. The faculty and staff are here to support you as you work to achieve your goals. Ask for help and advice whenever you need it.

The University of Arkansas is committed to the policy of providing educational opportunities to all qualified students regardless of their economic or social status and will not discriminate on the basis of race, color, sex, creed, sexual orientation, disability, veteran's status, age, marital or parental status, or national origin.

## For More Information

See the University of Arkansas Directory (<http://directory.uark.edu>) for a more comprehensive directory of offices and personnel.

## Admissions

Undergraduate Admissions	232 Silas H. Hunt Hall	479-575-5346
School of Law Admissions	110 Waterman Hall	479-575-3102
Graduate School Admissions	213 Gearhart Hall	479-575-6246
International Admissions	213 Gearhart Hall	479-575-6246

## Campus Tours & Visits

Office of Admissions	232 Silas H. Hunt Hall	479-575-5346
Graduate School Admissions	213 Gearhart Hall	479-575-6246

## Self-Paced Online Courses

### Correspondence Courses

Global Campus, School for Continuing Education and Academic Outreach	2 E. Center St., Fayetteville	479-575-3647
Toll Free		1-800-638-121

## Deans' Offices

Honors College	244 Gearhart Hall	479-575-7678
Dale Bumpers College of Agricultural, Food and Life Sciences	E-108 Agricultural, Food and Life Sciences Bldg	479-575-2252
Fay Jones School of Architecture	120 Vol Walker Hall	479-575-4945
J. William Fulbright College of Arts & Sciences	525 Old Main	479-575-4801

Sam M. Walton College of Business	301 Business Building	479-575-5949
College of Education and Health Professions	324 Graduate Education Bldg.	479-575-3208
College of Engineering	4183 Bell Engineering Center	479-575-6012
Graduate School and International Education	213 Ozark Hall	479-575-4401
School of Law	110 Waterman Hall	479-575-5601

## Enrollment Services

Office of Financial Aid	114 Silas H. Hunt Hall	479-575-3806
Academic Scholarship Office	101 Old Main	479-575-4464

## Greek Life

Walton Hall	Charlie and Cappy Whiteside Greek Life Center	479-575-5001
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## Honors Program

Honors College	244 Gearhart Hall	479-575-7678
Dale Bumpers College of Agricultural, Food and Life Sciences	Dean's Office AFLS E-108	479-575-2252
Fay Jones School of Architecture	112 W. Center St., Suite 700	479-575-4945
J. William Fulbright College of Arts & Sciences	517 Old Main	479-575-2509
Sam M. Walton College of Business	WCOB 328	479-575-4622
College of Education and Health Professions	Office of the Associate Dean, GRAD 317	479-575-4205
College of Engineering	BELL 3189	479-575-5412

## Housing

University Housing	410 Arkansas Avenue	479-575-3951
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## International Students

International Admissions	213 Gearhart Hall	479-575-6246
International Students and Scholars	104 Holcombe Hall	479-575-5003

## New Undergraduate Student Orientation

Admissions	232 Silas H. Hunt Hall	479-575-4200
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## Registration

Office of the Registrar	Main Office: 141 Uptown East (UPTE)	479-575-5451
	Campus Office: 146 Silas H. Hunt Hall (HUNT)	479-575-5451

## ROTC

Air Force ROTC	319 Memorial Hall	479-575-3651
Army ROTC	207 Military Science Building	479-575-4251

## Student Affairs

Vice Provost for Student Affairs and 325 Administration 479-575-5007  
Dean of Students Building

## Testing (ACT, CLEP, LSAT, GRE, ect.)

Toll-Free Number 1-800-377-8632

The following offices may be reached by dialing this toll-free number between 8 a.m. and 4:30 p.m. each weekday:

- Office of Admissions (undergraduate)
- Office of Scholarships and Financial Aid
- New Student Orientation

## Transcripts, Academic Records

Office of the Registrar Main Office: 141 Uptown 479-575-5451  
East (UPTE)

Campus Office: 146 479-575-5451  
Silas H. Hunt Hall  
(HUNT)

## University Switchboard

University Switchboard 479-575-2000

## Veterans Affairs

Veterans Resource and Information 632 Arkansas Union 479-575-8742  
Center

## University of Arkansas

An office and building address from 1 University of Arkansas Area  
above Fayetteville, AR 72701 Code: 479

## Undergraduate Programs of Study

The academic units of the University of Arkansas include the following colleges, schools and military departments:

- The Dale Bumpers College of Agricultural, Food and Life Sciences (p. 89), which includes the School of Human Environmental Sciences (p. 146)
- The Fay Jones School of Architecture and Design (p. 160)
- The J. William Fulbright College of Arts and Sciences (p. 183), which includes the School of Art (p. 204), the School of Journalism and Strategic Media (p. 269), and the School of Social Work (p. 348)
- The Sam M. Walton College of Business (p. 364)
- The College of Education and Health Professions (p. 419), which includes the Eleanor Mann School of Nursing (p. 446)
- The College of Engineering (p. 470)
- Graduate School (<http://catalog.uark.edu/graduatecatalog>), which includes the Graduate School of Business (<http://catalog.uark.edu/graduatecatalog/business>)
- School of Law (<http://catalog.uark.edu/lawcatalog>)
- Honors College (p. 83)
- Global Campus (<http://globalcampus.uark.edu>), School of Continuing Education and Academic Outreach
- Departments of Army ROTC (p. 503) and Air Force ROTC (p. 502)

The Global Campus, School of Continuing Education and Academic Outreach, serves as a portal for online, distance and professional education programs and courses provided by the University of Arkansas. Experienced staff members collaborate with the university's academic colleges and schools and other academic units to develop and facilitate quality, cutting-edge courses and programs.

The School of Law and the Graduate School offer professional and graduate degrees. See the *Graduate Catalog* and the *Law School Catalog* for more information.

## Accreditations

The University of Arkansas, Fayetteville, is accredited by the Higher Learning Commission.

Some colleges and programs are also accredited by other agencies, associations, or professional organizations, including those listed below.

### Dale Bumpers College of Agricultural, Food and Life Sciences

The Bachelor of Science in Human Environmental Sciences (B.S.H.E.S.) degree programs are accredited by the Council for Professional Development of the American Association of Family and Consumer Sciences. The degree program in dietetics is accredited by the Accreditation Council for Education in Nutrition and Dietetics of the Academy of Nutrition and Dietetics. The Jean Tyson Child Development Study Center is accredited by the National Association for the Education of Young Children (NAEYC). The Bachelor of Science in Agricultural, Food and Life Sciences (B.S.A.) in food science is accredited by the Institute of Food Technologists. Teacher education programs in agriculture and family and consumer sciences are coordinated with educational programs in the College of Education and Health Professions and are accredited by the National Council for Accreditation of Teacher Education (NCATE).

### Fay Jones School of Architecture and Design

The Bachelor of Architecture (B.Arch.) program is accredited by the National Architectural Accreditation Board, and the Bachelor of Landscape Architecture (B.L.A.) program is accredited by the Landscape Architectural Accreditation Board of the American Society of Landscape Architects. The Bachelor of Interior Design (B.I.D.) degree is accredited by the Council for Interior Design Accreditation (CIDA).

### J. William Fulbright College of Arts and Sciences

The Bachelor of Science (B.S.) degree program in chemistry is accredited by the American Chemical Society. The American Council on Education in Journalism and Mass Communications has accredited the Bachelor of Arts (B.A.) degree program in journalism. The Bachelor of Arts (B.A.), Bachelor of Music (B.M.), and Master of Music (M.M.) degree programs in the Department of Music are accredited by the National Association of Schools of Music. The Doctor of Philosophy (Ph.D.) degree program in clinical psychology is accredited by the American Psychological Association. The Bachelor of Social Work (B.S.W.) and the Master of Social Work (M.S.W.) degree programs are accredited by the Council of Social Work Education.

### Sam M. Walton College of Business

The Sam M. Walton College of Business offers degree programs for undergraduate students and for graduate students at both the master's

and doctoral levels and has been a member of and accredited by AACSB International, the Association to Advance Collegiate Schools of Business, since 1931. The accounting program was separately accredited in 1986 at both the bachelor's and master's levels. The master's in business administration program was approved in 1963. Accreditation by AACSB and membership in that organization signifies the college's commitment to AACSB goals of promoting and achieving the highest standards of business education.

## College of Education and Health Professions

The teacher education programs in the College of Education and Health Professions are accredited by the National Council for Accreditation of Teacher Education. The M.A.T. program in childhood education is in compliance with the standards of the National Association for the Education of Young Children. The various M.A.T. licensure programs in secondary education are in compliance with the standards of the specialty organizations including National Council of Teachers of English, National Council of Teachers of Mathematics, National Science Teachers Association, and National Council for the Social Studies. The Master of Science degree program in speech pathology-audiology is accredited by the Council on Academic Accreditation of the American Speech-Language-Hearing Association, but is currently on probationary status. See Graduate Catalog (<http://catalog.uark.edu/graduatecatalog/programsofstudy/communicationdisorderscdis>) for more information. The Bachelor of Science in Nursing (B.S.N.) degree program is accredited by the National League for Nursing Accrediting Commission (61 Broadway Street, New York, NY 10006, 212-363-5555, Ext. 153) and is approved by the Arkansas State Board of Nursing. The Bachelor of Science in Education (B.S.E.) degree program in health science, kinesiology, recreation, and dance is accredited by the Council on Accreditation of the National Recreation and Park Association. The Master of Science degree in rehabilitation counseling is accredited by the Council on Rehabilitation Education.

## College of Engineering

The College of Engineering offers the following programs accredited by the Engineering Accreditation Commission of ABET (visit <http://www.abet.org> for more information): Bachelor of Science in Biological Engineering (B.S.B.E.), Bachelor of Science in Chemical Engineering (B.S.Ch.E.), Bachelor of Science in Civil Engineering (B.S.C.E.), Bachelor of Science in Computer Engineering (B.S.Cmp.E.), Bachelor of Science in Electrical Engineering (B.S.E.E.), Bachelor of Science in Industrial Engineering (B.S.I.E.), Bachelor of Science in Mechanical Engineering (B.S.M.E.), Master of Science in Environmental Engineering (M.S.En.E.), and Master of Science in Biomedical Engineering (M.S.B.M.E.)

The College of Engineering offers a Bachelor of Science in Computer Science (B.S.) that is accredited by the Computing Accreditation Commission of ABET (visit <http://www.abet.org> for more information).

## School of Law

The degree programs in the School of Law on the Fayetteville campus are accredited by both the American Bar Association and the Association of American Law Schools.

## Certificate Programs

- Child Advocacy Studies Training (p. 348)
- Geospatial Technical Certificate (p. 259)

Following is a list of major programs of undergraduate study – grouped by college and school – offered at the University of Arkansas, followed by a list of minors and certificates offered by each college and school.

## Majors

### Dale Bumpers College of Agricultural, Food and Life Sciences

- Agricultural Business (p. 96)
- Agricultural Education, Communication and Technology (p. 104)
- Animal Science (p. 114)
- Crop Science (p. 122)
- Environmental, Soil, and Water Science (p. 126)
- Food Science (p. 130)
- Horticulture, Landscape and Turf Sciences (p. 138)
- Poultry Science (p. 143)

### School of Human Environmental Sciences

- Apparel Merchandising and Product Development (p. 146)
- Birth Through Kindergarten (p. 149)
- General Human Environmental Sciences (p. 151)
- Human Development, Family Sciences, and Rural Sociology (p. 152)
- Human Nutrition and Hospitality Innovation (p. 154)

### Fay Jones School of Architecture and Design

- Architecture (p. 171)
- Architectural Studies (p. 167)
- Interior Design (p. 175)
- Landscape Architecture (p. 180)
- Landscape Architectural Studies (p. 177)

### J. William Fulbright College of Arts and Sciences

- Anthropology (p. 200)
- Art (p. 204)
- Biology (p. 215)
- Chemistry (p. 221)
- Classical Studies (p. 231)
- Communication (p. 234)
- Criminal Justice (p. 236)
- Earth Science (p. 238)
- Economics (p. 240) (Bachelor of Arts)
- English (p. 243)
- French (p. 357)
- Geography (p. 252)
- Geology (p. 254)
- German (p. 357)
- Graphic Design (p. 204)
- History (p. 259)
- Interdisciplinary Studies (p. 264)
- International Studies (p. 266)
- Journalism (p. 269)
- Mathematics (p. 283)
- Music (p. 292)
- Philosophy (p. 323)
- Physics (p. 325)
- Political Science (p. 340)
- Psychology (p. 344)

Social Work (p. 348)  
 Sociology (p. 352)  
 Spanish (p. 357)  
 Theatre (p. 355)

## Second (or dependent) Majors

*A second (or dependent) major may be earned in a degree program when a student already is pursuing a first major that is authorized to be given independently.*

African and African American Studies (p. 198)  
 Asian Studies (p. 214)  
 European Studies (p. 250)  
 Latin American and Latino Studies (p. 281)  
 Middle East Studies (p. 291)

## Sam M. Walton College of Business

Accounting (p. 385)  
 Business, General (p. 403)  
 Business, International (p. 373)  
 Economics (p. 388)  
 Finance (p. 391)  
 Information Systems (p. 399)  
 Management (p. 403)  
 Marketing (p. 409)  
 Retail (p. 409)  
 Supply Chain Management (p. 413)

## College of Education and Health Professions

Career and Technical Education (p. 424)  
 Childhood Education (p. 431)  
 Communication Disorders (p. 442)  
 Educational Studies (p. 445)  
 Elementary Education (p. 454)  
 Human Resource and Workforce Development Education (p. 457)  
 Kinesiology (p. 459)  
 Nursing (p. 446)  
 Public Health (p. 464)  
 Recreation and Sport Management (p. 466)  
 Special Education (p. 468)

## College of Engineering

Biological Engineering (p. 477)  
 Biomedical Engineering (p. 480)  
 Chemical Engineering (p. 495)  
 Civil Engineering (p. 482)  
 Computer Engineering (p. 484)  
 Computer Science (p. 484)  
 Electrical Engineering (p. 488)  
 Industrial Engineering (p. 491)  
 Mechanical Engineering (p. 493)

## Undeclared Major

Degree-seeking students who are undecided about their choice of a major field of study should enroll in the college or school that best reflects their current academic interest. Advisors in each academic unit can provide guidance to students who are undecided about their choice of a major field of study. Each college has its own rules concerning the point at which a student must declare a major.

## Dale Bumpers College of Agriculture and Food Life Sciences (AFLS)

- Undergraduate students are expected to officially declare a major prior to earning 30 college credit hours. Advisors in each academic unit can provide guidance regarding majors and career opportunities to students with undeclared status and transfer students who have not declared a major. An administrative advising hold, to be released after meeting with an academic advisor, will be placed on undeclared students' records each term until a major has been declared to encourage thoughtful consideration and selection of majors.

## Faye Jones School of Architecture and Design (ARCH) –

Undergraduate students must elect one of the three academic departments upon acceptance into the School. Undeclared status is not an option.

## J. William Fulbright College of Arts and Sciences (ARSC) -

Undergraduate students are expected to officially declare a major prior to earning 30 college credit hours. The Fulbright College Advising Center will provide enhanced advising services specific to exploratory students regarding major and career decisions. An administrative advising hold, to be released after meeting with an academic advisor, will be placed on undeclared students' records each term until a major has been declared to encourage thoughtful consideration and selection of majors.

## College of Education and Health Professions (COEHP) –

Undergraduate students are admitted into pre-majors in selected fields, including Communication Disorders (PCDIS), Nursing (PNURS), Elementary Education (PELED), and Human Resource Development (PHRWD). Students must apply to the majors associated with their pre-major in certain semesters, and should work with their advisors to determine the most appropriate time to make this application. Students are admitted directly to programs in Recreation and Sport Management, Educational Studies, Kinesiology, and Public Health. Students may also be admitted to the College as an undeclared student and should work with an academic advisor to declare a major or pre-major prior to earning 30 credit hours.

**College of Engineering (ENGR) –** All undergraduate engineering students are classified as pre-engineering students until they have successfully completed the two semester freshman engineering sequence and achieved a C or better in MATH 2554, Calculus 1.

**Walton College of Business (WCOB) –** Students pursuing a degree in Walton College are classified as pre-business until all core-business requirements are fulfilled.

## Minors

Each college and school of the University of Arkansas can determine whether to offer minors within their respective departments and whether to allow a student to pursue a minor in another college or school. Most, but not all, minors are offered in fields in which a major is also offered. Students should check with academic advisers in their college or school to determine the eligibility and requirements of a minor. They are listed below.

## Interdisciplinary

Microelectronics-Photonics (p. 85) (administered by the Graduate School)  
 Nanotechnology (p. 86) (administered by the Provost's Office)  
 Planning (p. 88) (administered by the departments of Landscape Architecture and Political Science)  
 Sustainability (p. 88) (administered by the Provost's Office)



## Dale Bumpers College of Agricultural, Food and Life Sciences

Agricultural Business (p. 96)  
 Agricultural Communications (p. 104)  
 Agricultural Education (p. 104)  
 Agricultural Leadership (p. 113)  
 Agricultural Systems Technology Management (p. 104)  
 Animal Science (p. 114)  
 Crop Biotechnology (p. 122)  
 Crop Management (p. 122)  
 Entomology (p. 126)  
 Equine Science (p. 114)  
 Food Science (p. 130)  
 General Foods and Nutrition (p. 154)  
 Horticulture (p. 138)  
 Human Development and Family Sciences (p. 152)  
 International Economic Development (p. 104)  
 Landscape Horticulture (p. 138)  
 Natural Resources Management (p. 129)  
 Pest Management (p. 142)  
 Plant Pathology (p. 142)  
 Poultry Science (p. 143)  
 Turf Management (p. 138)  
 Minors offered by any other UA college or school

## Fay Jones School of Architecture and Design

Interior Design (p. 175) (available only to students in the School of Architecture and Design)  
 Planting Design (p. 177) (for Horticulture majors)  
 Minors offered by any other UA college or school

## J. William Fulbright College of Arts and Sciences

African and African American Studies (p. 198)  
 Anthropology (p. 200)  
 Arabic (p. 357)  
 Art History (p. 204)  
 Asian Studies (p. 214)  
 Biology (p. 215)  
 Chemistry (p. 221)  
 Child Advocacy Studies Training (p. 348)  
 Chinese (p. 357) with Business Orientation  
 Classical Studies (p. 231)  
 Communication (p. 234)  
 Criminal Justice (p. 236)  
 Economics (p. 240), Fulbright College  
 English (p. 243)  
 European Studies (p. 250)  
 French (p. 357)  
 Gender Studies (p. 252)  
 Geography (p. 252)  
 Geology (p. 254)  
 German (p. 357)  
 Historic Preservation (p. 252)  
 History (p. 259)  
 Indigenous Studies (p. 264)  
 Japanese (p. 357)  
 Jewish Studies (p. 269)  
 Journalism (p. 269)

Latin American and Latino Studies (p. 281)  
 Legal Studies (p. 340)  
 Mathematics (p. 283)  
 Medieval and Renaissance Studies (p. 290)  
 Middle East Studies (p. 291)  
 Music (p. 292)  
 Philosophy (p. 323)  
 Physics (p. 325)  
 Political Science (p. 340)  
 Psychology (p. 344)  
 Religious Studies (p. 347)  
 Social Work (p. 348)  
 Sociology (p. 352)  
 Southern Studies (p. 354)  
 Spanish (p. 357)  
 Statistics (p. 283)  
 Theatre (p. 355)

## Sam M. Walton College of Business

Accounting (p. 385)  
 Banking/Financial Management/Investment (p. 391) (available only to students in the Sam M. Walton College of Business)  
 Behavioral Economics (p. 388)  
 Business Analytics (p. 399)  
 Business Economics (p. 388)  
 Business minor (p. 417) for non-business students  
 Enterprise Resource Planning (p. 416)  
 Finance (p. 391)  
 Financial Economics (p. 416) (available only to students in the Sam M. Walton College of Business)  
 Information Systems (p. 399)  
 Insurance/Real Estate (p. 391) (available only to students in the Sam M. Walton College of Business)  
 International Business (p. 373)  
 Management (p. 403)  
 Marketing (p. 409)  
 Nonprofit Studies (p. 416) (available only to students in the Sam M. Walton College of Business)  
 Retail (p. 409)  
 Supply Chain Management (p. 413)  
 Minors offered by the J. William Fulbright College of Arts and Sciences

## College of Education and Health Professions

Rehabilitation and Addictions Studies (p. 467)  
 UAteach (p. 444)  
 Minors offered by any other UA college or school

## College of Engineering

Minors offered by any other UA college or school

## Certificate Programs

### J. William Fulbright College of Arts and Sciences

Child Advocacy Studies Training (p. 348)  
 Geospatial Technical Certificate (p. 259)

Bachelor of Arts/Juris Doctor (<http://catalog.uark.edu/lawcatalog/jdadmissionandcourses>) (3/3 Program)

Bachelor of Arts/Master of Arts (<http://catalog.uark.edu/graduatecatalog/programsofstudy/journalismwalterjlemkedepartmentofjour>) in Journalism (five-year program)

Bachelor of Science/Juris Doctor (<http://catalog.uark.edu/lawcatalog/jd admissionandcourses>) (3/3 Program)

Bachelor of Science/Medical Doctor (p. 186)

Bachelor of Science/Doctor of DS (p. 186)

Bachelor of Science in Education/Master of Arts in Teaching

Juris Doctor/Master of Arts (<http://catalog.uark.edu/lawcatalog/jd admissionandcourses>) in Political Science

Juris Doctor/Master of Business Administration (<http://catalog.uark.edu/lawcatalog/jd admissionandcourses>)

Juris Doctor/Master of Public Administration (<http://catalog.uark.edu/lawcatalog/jd admissionandcourses>)

Juris Doctor/Master of Public Service (in conjunction with the Clinton School of Public Service)

Juris Doctor/Master of Social Work (<http://catalog.uark.edu/lawcatalog/jd admissionandcourses>)

Master of Laws/Master of Science (<http://catalog.uark.edu/lawcatalog/llminagriculturalandfoodlaw>) in Agricultural Economics

- Honors Studies
- Reserve Officers' Training Corps
- Cooperative Education
- Study Abroad
- Graduate, Law, Pre-Law and other Pre-Professional Programs

## Honors Studies

Interested students should write to the Director of Honors Program in the appropriate college.

The honors program in the Dale Bumpers College of Agricultural, Food and Life Sciences provides students with opportunities for intellectual enrichment beyond the traditional undergraduate experience. This is accomplished through honors courses, completion of an undergraduate capstone honors project or thesis, and other significant activities including interactions with students in honors programs in other colleges. The results of the student's original research or creative project may be published in *Discovery*, the undergraduate research journal of the Bumpers College, or *Inquiry*, the university-wide journal of undergraduate research and creative activity. In support of these efforts, participants in the Honors Program are eligible to receive an honors stipend in support of their research projects. The transcript and diploma of each honors graduate will designate the student as an honors graduate of the college. At the college commencement ceremony, each honors graduate will wear special regalia and have the title of their honors thesis and their mentors' names listed in the graduation program. Students must maintain a cumulative grade-point average of 3.50 and subscribe to the Statement of Ethical Standards to remain in the program. For additional information, see the Bumpers College (p. 89) section of this catalog.

The Fay Jones School of Architecture and Design provides opportunities for students of superior academic and creative ability to enhance and enrich their professional and liberal education by participating in the School's honors programs. For additional information, please see the Fay Jones School of Architecture and Design (p. 160) section of this catalog.

To create an intellectual environment that will challenge the best of students, the J. William Fulbright College of Arts and Sciences provides a comprehensive program of honor studies. From the first year to the senior year, an honors student is provided the opportunity to study with other superior students in small distinctive classes taught by highly motivated

and skilled faculty members. There are also opportunities for independent study so that students learn to work on their own and to develop their abilities and interests in ways that are not normally possible in regular college course work. Students participating in a program of honors studies also receive special academic counseling to satisfy their future career objectives. Students are offered every opportunity to achieve a high level of intellectual maturity and accomplishment. For additional information, see the Fulbright College (p. 183) section of this catalog.

The honors program in the Sam M. Walton College of Business is offered to high-achieving students interested in obtaining an outstanding business education at the University of Arkansas. Students who participate in the program will take honors classes in the University Core and pre-business curriculum as well as honors colloquia in the Walton College offered exclusively to honors students. The subject matter of these colloquia varies from year to year and focuses on current business issues. Honors students complete a thesis in the senior year. Students in the honors program are entitled to register on the first day of registration week, have exclusive access to an honors computer lab and study area, and will be given priority consideration in such programs as the Arkansas Cooperative Education Program. For further information, see the Walton College (p. 364) section of this catalog.

The honors program in the College of Education and Health Professions enables undergraduate students who have demonstrated potential for outstanding scholarship achievement an opportunity to broaden and deepen their liberal and professional education. Honors students participate in honors seminars, leadership skills development and a required undergraduate thesis/project. Students are provided opportunities to enhance their learning experience through critical thinking, leadership skills development and independent study. For additional information, see the College of Education and Health Professions (p. 419) section of this catalog.

The College of Engineering has established an honors program to challenge superior students with a more in-depth academic program and research experience and to provide a structure for working more closely with faculty members and other students in a team environment. An honors program is highly recommended for individuals planning academic or research-related careers that require considerable critical and original independent thinking. Students must formally apply for admission to the Engineering Honors Program. Once accepted into the program, honors students take a minimum of 12 hours of honors courses (a minimum of 6 of these 12 hours must be in engineering), participate in undergraduate research and write an undergraduate thesis, and must fulfill any additional departmental requirements. To graduate with honors, a student must hold a cumulative GPA of 3.50 or better for all course work, computed at graduation. For more information, see the College of Engineering (p. 470) chapter of this catalog.

## Campuswide Academic Honor Societies

For other academic honor societies, see the various school and college sections of this catalog.

Golden Key is an academic honor society open to selected juniors and seniors who have a minimum grade-point average of 3.50.

Order of Omega honor society is exclusive to members of the Greek community on the university campus. Selection of members is based upon leadership in the inter-Greek activities, academic honors, and contributions to the University community. A 2.50 GPA is necessary for membership consideration.

Phi Eta Sigma is an academic honor society for freshman students. Membership is selected in the spring each year, and the only requirement is a minimum GPA of 3.50 or better for the first semester of the freshman year.

Phi Kappa Phi is a national honor society whose primary objective is the recognition and encouragement of superior scholarship in all academic disciplines. Junior and senior undergraduate students who have a minimum GPA of 3.85 are eligible for membership. Also eligible are graduate students, registered for one year, who have a minimum GPA of 3.85.

Tau Alpha Upsilon is an honor society that honors outstanding students who live in the University of Arkansas Residence Hall system.

Who's Who, a general honor society, honors students who have excelled in scholarship, leadership and campus activities throughout their college careers. Membership requirements are a minimum cumulative GPA of 2.00, completion of 85 credit hours, and at least two full semesters attendance at the University of Arkansas, Fayetteville, prior to application.

## Campuswide Leadership Honor Societies

**Blue Key** is a service-oriented honor fraternity that recognizes outstanding scholarship, leadership and involvement in campus activities. Applicants must be classified as juniors and meet a minimum GPA of 2.75 for membership consideration.

**Cardinal Key** is a junior service-oriented honor society whose membership selection is based on scholarship, leadership, and community and campus activities. A 3.00 GPA requirement must be met in order to be considered for membership at the end of the sophomore year.

**Cardinal XXX** is a service-oriented honor society whose membership consists of a select group of sophomores. Membership selection is based on scholarship, leadership, and community and campus service. A 3.00 GPA is required for consideration, and selection is made at the end of the freshman year.

**Gamma Beta Phi** is a service-oriented honor society established to recognize and encourage excellence in education. Membership in the organization is open to students who are in the top 20 percent of their class.

**Mortar Board** is a senior honor society that considers outstanding scholarship, leadership, and service to the campus and community when selecting members. Applicants must have a 3.00 GPA in order to be eligible for consideration.

## Reserve Officers' Training Corps

A true job training program, ROTC is offered at the University of Arkansas through both the U.S. Air Force and the U.S. Army. Each department provides a unique, career-oriented set of courses relevant to future leadership positions within its particular branch. In addition to studying Aerospace Education or Military Science, students interact with one another in a practical setting as they examine and apply the dynamics of leadership, management, ethics, communication, and teamwork. Participants are given the background and comprehensive building blocks to become commissioned officers in the U.S. military, if qualified. Physical activities and summer orientation programs are enhanced with continually updated curricula. Classes are taught by military personnel, ensuring realistic perspectives on the military professions.

In the finest traditions of the University of Arkansas and the ROTC programs, students are challenged to grow, develop and assume responsibilities throughout their academic years. Underlying that teaching is a foundation of service, integrity and excellence – expected and demanded of all officer candidates. Scholarships and details of the two programs are found in the ROTC chapter of this catalog. Army ROTC is located in the Army ROTC building, 479-575-4251 or toll free 1-866-891-5538, armyrotc.uark.edu. Air Force ROTC is located in 319 Memorial Hall, 479-575-3651, afrotc.uark.edu.

## Cooperative Education Program

Cooperative Education is a unique program offered by the Office of Career Services that allows students to alternate between going to school and working in their chosen vocation. In addition, the program allows employers the opportunity to train and evaluate future employees before offering them positions.

Employment assignments are diversified to provide students with a variety of experiences related to their major field and with work of increasing difficulty and responsibility. Although the primary objective is to supplement theoretical knowledge with practical experience, students earn full-time pay while on work assignments. This benefit produces welcome income while the students are still pursuing a degree.

Positions are available to students in many disciplines, primarily engineering, architecture, landscape architecture, business, agriculture, natural science and mathematics. Co-op students must be in good academic standing, must be at least 18 years of age, must be making normal progress toward a degree, and must meet the specific requirements of their college. (For example: the College of Engineering and Dale Bumpers College of Agricultural, Food and Life Sciences require completion of the freshman year; Fulbright College of Arts and Sciences requires 45 credit hours and a 2.5 grade-point average; the Walton College of Business requires completion of pre-business program requirements; and the Fay Jones School of Architecture requires completion of the junior year.) In addition, employers may establish their own academic criteria for selecting students.

For further information, contact the Career Development Center, 607 Arkansas Union, 479-575-2805.

## Study Abroad

The university encourages the expansion of students' educational experiences through study abroad. Student exchange programs have been established with Kansai University and Shimane University (Japan), Hankuk University (Korea), Al-Akhawayn University (Morocco), University of Graz (Austria), University of Essex (England), University of Maine (France), and Carlos III University of Madrid (Spain). Other UA study abroad programs include summer/semester/year-long programs in Austria, England, Scotland, Ireland, France, Germany, Italy, Mexico, and Spain. A limited number of scholarships and travel grants are available each year for these programs.

For more information about study, work, and travel abroad, contact the Office of Study Abroad, 722 W. Maple, 479-575-7582. Students in the Dale Bumpers College of Agricultural, Food and Life Sciences may contact Dr. Andrew Proctor, Director of International Agricultural Programs, Bumpers College Dean's Office, E-108 AFLS Building, 479-575-2252, aproctor@uark.edu. Students in the Walton College of Business may contact the Undergraduate Programs Office at 479-575-4622. Students in the College of Engineering may contact the Assistant Dean for International Programs at 479-575-7236.

## Graduate and Professional Study

The University of Arkansas is the major center for comprehensive graduate-level instruction in the state, offering students the opportunity to continue their studies or to specialize in a particular field through the Graduate School. The university offers a wide range of graduate degrees, including the master's, the Educational Specialist, the Doctor of Education, and the Doctor of Philosophy. Non-degree graduate certificates are also offered. Information about graduate programs may be found in the Graduate School Catalog or at [grad.uark.edu](http://grad.uark.edu).

The School of Law on the Fayetteville campus offers a juris doctor degree program for qualified students with a bachelor's degree, and it offers the nation's only master's program in agricultural law for students with a law degree. Further information concerning professional study may be obtained by contacting the School of Law dean's office for a copy of the current catalog: University of Arkansas School of Law, Leflar Law Center, 107 Waterman Hall, Fayetteville, AR 72701, 479-575-3102 or at [law.uark.edu](http://law.uark.edu).

## Pre-Law

The University of Arkansas School of Law does not prescribe a specific pre-law curriculum and does not require any single "pre-law major." Prospective students are encouraged to select baccalaureate majors best suited to individual interests and abilities, and writing courses are often very valuable.

A baccalaureate degree is required for admission to the University of Arkansas School of Law, except for those students in the Dale Bumpers College of Agricultural, Food and Life Sciences or the Fulbright College of Arts and Sciences who are admitted to the special six-year program. All applicants for admission are required to take the Law School Admission Test.

## Other Pre-Professional Programs

Fulbright College offers pre-professional programs and advisers in law, medicine, dentistry, optometry, medical technology, chiropractic, physical therapy, pharmacy, dental hygiene, occupational therapy, social work, and theology. The Dale Bumpers College of Agricultural, Food and Life Sciences coordinates the pre-veterinary medicine program.

## Enrollment Services

### Mission

Enrollment Services seeks to enroll a diverse group of capable students, who will engage and excel at the University of Arkansas, and to assist these students in achieving their academic and career goals.

The mission of the Enrollment Services Division of the University of Arkansas is to enroll and graduate students who will engage fully in academic and service programs, develop intellectually and personally, and contribute to the campus, the state, and the global community. Encouraging academic engagement from a diverse group of communities will create a dynamic educational environment that will promote a broad learning experience for the entire campus community. To carry out this mission, the Enrollment Services Division is comprised of nine professional and service-oriented offices: Admissions, Center for Learning and Student Success, Financial Aid, Graduation and Retention, Nationally Competitive Awards, Orientation, Registrar, Scholarships, and UAConnect. Through collaborative efforts, Enrollment Services strives to:

- Promote the University of Arkansas and the pursuit of higher education;

- Foster initiatives that support diversity as a key goal of the University of Arkansas community;
- Attract, admit, and prepare new and returning students for enrollment on campus while working with academic affairs to ensure planned and sustainable growth in accordance with institutional priorities;
- Accurately and efficiently reduce financial obstacles through federal, state, institutional scholarship and aid programs;
- Commit to preparing traditional and non-traditional students, including returning adult learners, for academic achievement and success in life;
- Assist future, current, and former students as they navigate administrative requirements to achieve their academic goals;
- Ensure accuracy for registration and academic records;
- Commit to retaining students who enroll at the University of Arkansas and assisting them through academic transitions on their path to graduation;
- Prepare students to be nationally competitive;
- Craft and maintain policy that facilitates effective administration to support Division goals, including coherence of policy across all divisions;
- Develop innovations in the use of technology and information systems aimed at supporting a research engine for best practices in enrollment services and data-based decision making;
- Increase state and global knowledge by achieving a net increase in Arkansas residents holding bachelor's, master's, and doctoral degrees;
- Support the university's pursuit to become a nationally recognized research institution that puts students first.

## Office of Enrollment Services

232 Silas Hunt Hall  
479-575-3771

## Vice Provost for Enrollment and Dean of Admissions

Suzanne McCray  
232 Silas Hunt Hall  
479-575-3771

## Admissions

232 Silas Hunt Hall  
479-575-5346  
[admissions.uark.edu](http://admissions.uark.edu)  
[uofa@uark.edu](mailto:uofa@uark.edu)

## Academic Scholarships

114 Silas Hunt Hall  
479-575-4464  
[scholarships.uark.edu](http://scholarships.uark.edu)  
[scholars@uark.edu](mailto:scholars@uark.edu)

## Center for Learning and Student Success

040B Gregson Hall  
479-575-2885  
[class.uark.edu](http://class.uark.edu)

## Financial Aid

114 Silas Hunt Hall  
479-575-3806

finaid.uark.edu  
finaid@uark.edu

## Graduation and Retention

232 Silas Hunt Hall  
479-575-5343  
class.uark.edu

## Nationally Competitive Awards

232 Silas Hunt Hall  
479-575-3771  
awards.uark.edu  
awards@uark.edu

## New Student Orientation

232 Silas Hunt Hall  
479-575-4200  
orientation.uark.edu  
nso@uark.edu

## Registrar

Main Office: 141 Uptown East  
Campus Office: 146 Silas Hunt Hall  
479-575-5451  
registrar.uark.edu  
registra@uark.edu (regrweb@uark.edu)

## UAConnect

220 Uptown East  
479-575-2468  
uaconnect.uark.edu  
uachelp@uark.edu

## Orientation

All new undergraduate students are expected to participate in an orientation experience. The orientation program is designed to introduce every aspect of the university community to our students, enabling them to establish a bond with the institution and those here to support them. A significant aspect of this experience will be to provide students with information about the learning opportunities, resources, policies, support systems, and student activities at the University. New freshmen must attend orientation before enrolling in classes. For more information on New Student Orientation, go to [orientation.uark.edu](http://orientation.uark.edu).

## Academic Bankruptcy

Students returning to the University of Arkansas after an absence of five or more years may be eligible to declare academic bankruptcy if they meet the following criteria:

1. Must have been enrolled previously at the University of Arkansas, Fayetteville, as an undergraduate student and be returning as an undergraduate student.
2. Must not have been enrolled at the university during the previous five years.
3. Students who have attended another institution since their last attendance at the university must meet requirements for transfer students (2.00 GPA on all coursework attempted more than five years after last enrollment at the University of Arkansas, Fayetteville) to be eligible for readmission.
4. Must submit an application for readmission and official transcripts of all college work attempted since last attendance at the University of Arkansas by the application deadlines and submit a Declaration of Academic Bankruptcy form (<http://registrar.uark.edu/1621.php>) to the Office of the Registrar. The following are the conditions of academic bankruptcy:
  - a. Students will forfeit all credit hours previously awarded by the University of Arkansas, Fayetteville. This includes course work completed at the university (regardless of grades earned), courses accepted in transfer, credit by examination, and any self-paced (correspondence) course work awarded.
  - b. A new calculation of GPA and credit hours will begin when the student returns to the University of Arkansas.
  - c. The transcript will reflect the student's complete record (including all previous college work) with an added notation of "Academic Bankruptcy Declared."
  - d. Courses taken at another institution within five years of the last University of Arkansas enrollment will not be accepted for transfer. Coursework completed more than five years after last attending the University of Arkansas may be accepted in transfer, subject to university transfer credit policies. For purposes of this policy, University of Arkansas self-paced (correspondence) coursework will be treated in the same manner as transfer work.
  - e. For the university to provide appropriate advising and (as required by Arkansas Act 1052) appropriate assessment, a student may be required to submit ACT, SAT, or ACT COMPASS test scores prior to registration for classes if, as a result of academic bankruptcy, that student is returning to the university as a freshman with fewer than 24 transfer hours.

## Admission

### Undergraduate Admission

Any person who intends to register for a course at the University of Arkansas must first be admitted to the university. Students returning to the university after an absence of a fall or spring semester must also complete an application.

The University of Arkansas offers a variety of services to students with physical or learning disabilities through the Center for Educational Access. Students with any type of physical or learning disability are strongly encouraged to contact the CEA in Room 209 of the Arkansas Union or call 479-575-3104 (TDD/Voice) to learn more about specific services and the overall accessibility of the university.

The university reserves the right to modify admission requirements. Application forms and the most current information about admission requirements are available from the Office of Admissions. Please send all application materials and supporting documents to the following address:

Office of Admissions  
232 Silas H. Hunt Hall  
1 University of Arkansas  
Fayetteville, AR 72701  
479-575-5346 or 1-800-377-8632  
[admissions.arkansas.edu](http://admissions.arkansas.edu) (<http://admissions.uark.edu>)  
uofa@uark.edu

### When to Apply

Students interested in applying to the University of Arkansas for the fall semester are encouraged to apply by the November 1 priority deadline.

By applying early, students take advantage of scholarship, housing, and orientation privileges; however, regular fall applications will be accepted until August 1 prior to the start of term. Applicants for freshman scholarships are encouraged to apply for admissions by November 1 and complete the separate scholarship application by the priority scholarship deadline, November 15. Applicants for entering transfer scholarships should submit completed applications to the Office of Admissions and the Office of Academic Scholarships no later than April 1, for the fall semester, and October 1, for the spring semester.

## Deadlines for Admission Consideration

Applications and required transcripts must be received in the Office of Admissions by the following deadlines to be accepted for the respective enrollment periods:

- Fall – August 1
- Spring – December 20

Students who are unable to submit their applications by the deadline may be denied admission and considered for admission for the following term.

International students should refer to "International Students" in this section for application deadlines, procedures, and requirements.

## Graduate School

Applications for admission to the University of Arkansas Graduate School and an official copy of transcripts of the applicant's academic record at each college and university attended since high school graduation, and official test score on the Graduate Record Examination (GRE) or other national standard test, must be submitted to the graduate school admissions office and approved in advance of registration. The transcripts will become a part of the student's permanent file at the University. Applications may be obtained by writing to the Graduate and International Admissions Office, 213 Gearhart Hall, 1 University of Arkansas, Fayetteville, AR 72701; by calling 479-575-6246; by e-mailing gradinfo@uark.edu; or by applying at apply.uark.edu.

Additional information and procedures for making application to the Graduate School are included in the Graduate School Catalog (<http://catalog.uark.edu/graduatecatalog/admissions>).

## Admission to Graduate Standing

To be admitted to graduate standing, a student must have 1) earned a baccalaureate degree from a regionally accredited U.S. institution or from an institution with substantially equivalent requirements for a baccalaureate degree and must have a GPA of 3.0 or better on the last 60.0 credit hours of attempted coursework prior to receiving the baccalaureate degree and 2) present satisfactory scores on the Graduate Record Examination (GRE) or other national standard test.

Admission to graduate standing does not admit a student to a specific program of study leading to a graduate degree. Therefore, in addition to satisfying the general requirements of the Graduate School, the applicant must also comply with the specific requirements and have the approval of the department in which graduate study is desired.

For more details, go to the Graduate School Catalog (<http://catalog.uark.edu/graduatecatalog/admissions>).

## How to Apply

1. **Submit a completed application for undergraduate admission and the non-refundable application fee to the Office of Admissions.** You may apply for admission online at [apply.uark.edu](http://apply.uark.edu).
2. **Request that all required transcripts be sent to the Office of Admissions.** Only official transcripts will be accepted. Transcripts are not considered official unless submitted in a sealed, stamped envelope, or sent via electronic data interchange from the previous institution. Questionable or unreadable transcripts may be refused. **High school transcripts are required of all entering freshmen and transfer students with fewer than 24 transferable semester hours.** A preliminary admission will be provided to high school seniors on the basis of sixth- or seventh-semester transcripts. **College transcripts must be provided from each college or university attended.** Transcripts must be sent directly to the Office of Admissions from each institution attended, in an official sealed school envelope, or sent via electronic data interchange.
3. **All new freshmen and transfer students with fewer than 24 transferable credit hours must submit ACT or SAT scores. Non-traditional students applying three or more years after high school graduation have the option of submitting the ACT COMPASS or The College Board Accuplacer to satisfy testing requirements. The University of Arkansas will not accept test scores taken more than five years prior to enrollment.** Test scores should be sent directly to the university by the testing agency. The university's institutional codes are: ACT-0144; SAT-6866.
4. **All students born after January 1, 1957, must submit immunization health records to the Pat Walker Health Center after admission.** Immunization proof is required prior to first registration. See the Health Center's immunization page (<http://health.uark.edu/immunizations>).
5. **English Proficiency:** Applicants whose native language is not English must submit a Test of English as a Foreign Language (TOEFL) score of at least 550 (paper based), 79 (internet based), or a minimum score of 6.5 on the IELTS (writing) taken within the preceding two years. Students who have completed grades 10-12 at a U.S. accredited high school and have a satisfactory ACT English subscore may request a review for waiver of this requirement. Students transferring from an accredited U.S. institution (or institution in a country where English is the native language) with at least 24 transferable credit hours and successful completion of English Composition I and II with a grade of "C" or above will not be required to submit the TOEFL or IELTS for admission consideration. For more information about the TOEFL, you may write to TOEFL Services, ETS, PO Box 899, Princeton, New Jersey 08541, or visit [ets.org/toefl](http://ets.org/toefl) (<http://www.ets.org/toefl>).
6. **The university shall admit only those applicants whose enrollment will not be detrimental to the quality of life and the educational programs of the university.** The Admissions and Appellate Board has final authority to interpret university admission or transfer policy and to grant a variance. An applicant who has withheld pertinent information regarding educational background or who has falsified information or credentials may be denied admission to the university or, if enrolled, may be immediately withdrawn.

## International Students

All international students must present officially certified academic credentials, evidence of adequate financial support, and, for non-native English speakers only, a minimum TOEFL score of 550 (paper based),

79 (Internet based), or a minimum score of 6.5 on the IELTS, taken within the preceding two years. Students who have completed grades 10-12 at a U.S. accredited high school and have a satisfactory ACT English subscore may request a review for waiver of this requirement. Students transferring from an accredited U.S. institution (or institution in a county where English is the native language) with at least 24 transferable credit hours and completion of English Composition I and II with a grade of "C" or above will not be required to submit the TOEFL or IELTS for admission consideration.

Applicants who meet the academic and financial requirements but who do not meet the English proficiency requirement of the University of Arkansas will be offered conditional admission to attend an intensive English program through the Spring International Language Center. Students will be eligible to enroll in University of Arkansas academic courses upon successful completion of the highest level of the intensive English program with a 3.00 grade average and recommendation of the director of Spring International.

An entering freshman who has completed secondary school at either U.S. or foreign institutions must have a) the equivalent of a final cumulative GPA of at least 3.0 (or its equivalent) and b) competency equivalent to that developed by taking four years of English and three years each of mathematics, natural sciences, and social studies, and an additional three units of electives chosen from English, speech, foreign languages, mathematics, natural sciences, or social studies in U.S. high schools.

A student transferring with fewer than 24 semester hours of post-secondary coursework at either U.S. or foreign institutions must a) have a cumulative GPA of at least a 2.50 (or its equivalent) on all post-secondary coursework attempted, and b) meet the requirements specified for entering freshmen. A student transferring from either a U.S. or foreign post-secondary institution with at least 24 semester hours must have the equivalent of a cumulative GPA of at least 2.50 on all post-secondary course work attempted.

A non-refundable application fee of \$50 is required for all international applicants. All applications and supporting documents must be submitted by May 31 for the fall semester; October 31 for the spring semester; and March 1 for the summer sessions.

Any international student returning to the university after an absence of a full semester (fall or spring) or more must submit an application for admission. For these students, the application deadlines are August 15 for the fall term and January 1 for the spring term. It should be noted that a student previously enrolled at the University of Arkansas who takes a full term of courses elsewhere and then seeks readmission to the university returns as a transfer student and must meet university admission requirements for international transfer students, submit a photocopy of the I-20 issued by the transferring institution, and submit a new financial statement. An application fee is not required for returning students.

For specific admission requirements and application materials pertaining to students on F-1, J-1, or any non-immigrant visas, applicants should write directly to the International Admission Office, 340 N. Campus Drive, 213 Gearhart Hall, 1 University of Arkansas, Fayetteville, Arkansas 72701, or call 1-479-575-6246 or e-mail [iao@uark.edu](mailto:iao@uark.edu).

Please see the section Placement and Proficiency Tests (p. 46) for university policy regarding English language use by non-native speakers.

## New Freshmen

Applications are reviewed on an individual basis with consideration given to the applicant's overall grade-point average (GPA) and standardized test scores. New freshmen and those transfer students with fewer than 24 transferable credit hours should have completed or be in the process of completing the following college preparatory curriculum in high school:

### 16 Units Total

- **English 4 units**
- **Mathematics 4 units** (Units must be equivalent to or higher level than Algebra I)
- **Social Studies 3 units**
- **Natural Sciences 3 units**
  - **1 unit general sciences – 2 units lab sciences** (Choose two courses from biology, chemistry, and physics laboratory. Two years of principles of technology will meet one unit of natural sciences [physics]. Two years of applied biology/chemistry will meet one unit of natural sciences [biology].)
- **Electives 2 units** (To be chosen from English, foreign languages, oral communication, mathematics, computer science, natural sciences, and social studies)

Arkansas residents who have taken these course requirements and who have an overall high school GPA of 3.00 or better and an ACT score of 20 or an equivalent 930 SAT (Pre-March 2016) combined critical reading and math score or an equivalent 1020 Redesigned SAT score or better meet the minimum admission requirements. Out of state applicants must meet minimum admission requirements and may be required to meet higher standards, depending on demand. Students not meeting minimum admission requirements are still encouraged to apply and will be reviewed for possible admission by the Admissions and Appellate Board.

### Accelerated Admission

Superior high school students who have completed a rigorous college preparatory curriculum may seek admission to the freshman class at the end of their junior year of high school. Applicants for accelerated admission must complete certain required subjects during three years of high school study, submit letters of recommendation, and submit an ACT or SAT score equivalent to at least the 90th percentile of the university's previous entering class. Additional information and application materials may be obtained at the Office of Admissions, by calling 1-800-377-8632, or visiting [admissions.uark.edu](http://admissions.uark.edu).

## Non-Degree Seeking Students

Applicants who are not interested in working toward a degree while taking classes may, under certain conditions, be approved to do so upon submitting an application for admission. Degree-seeking students attending part-time or as an "undeclared major" should not confuse their status with this special, non-degree seeking category. Students who are admitted provisionally and placed in a non-degree seeking status until they earn a minimum 2.0 GPA on 12 credit hours should also not confuse their status with this special category. The Office of Admissions reserves the right to determine the proper category of admission and to determine what credentials may be required.

Classification as a special student permits enrollment in credit classes (or as an auditor) on a space-available basis; however, special students are not eligible for financial aid, and the university incurs no particular obligation to provide academic advisement.

Admission as a special, non-degree seeking student is not intended to serve as a means of access to regular, degree-seeking status nor is it intended for a person who has earned unsatisfactory grades in previous high school or college course work. Students who have been denied regular undergraduate admission are not eligible for this status. All special students are subject to the same regulations concerning scholastic probation, suspension, and dismissal as other undergraduate students. Students who have previously been assessed developmental course requirements or high school course deficiencies will retain that status as a special non-degree student.

Non-degree seeking students must meet course prerequisites and should be prepared to verify to the department by official documentation that university course prerequisites have been met, if appropriate. Students planning to enroll in any upper-division education courses should verify admission to the Teacher Education Program prior to registration. A non-degree seeking student may not enroll for more than nine hours of courses in a term without approval of the student's academic dean. No more than 24 semester hours earned while in a non-degree seeking status will apply to a degree at the university.

Unless otherwise specified, students with non-degree seeking status who wish to be admitted into a degree program at the University of Arkansas must apply for admission as such prior to the beginning of the term for which the change of status is requested. All requirements for admission to regular status must then be met, except for students in the provisional non-degree-seeking status.

## When to Apply

Non-degree seeking students must meet the same application deadlines as other students. See the Deadlines for Admission Consideration (p. 43) on the previous page for deadlines.

## How to Apply

The following students may be considered for non-degree seeking status:

1. Visiting students who attend other colleges or universities and wish to enroll at the university to earn credits that they plan to transfer back to their home institution. It is the student's responsibility to verify with his or her college that courses taken here will be acceptable as transfer credit.

**Application procedure:** Submit a completed application, a non-refundable application fee, and a letter of good standing verifying eligibility to return to the home institution.

2. Students who want to take courses of special interest for personal or professional development but who are not interested in working toward a degree. Applicants in this category are normally expected to have been out of high school for five or more years.

**Application procedure:** Submit a completed application and non-refundable application fee. Students who have been out of high school less than five years should submit a transcript and test scores verifying that admission requirements have been met.

The application fee is not required for residents of Arkansas who are 60 years and older and wish to participate in the senior tuition waiver program (<https://admissions.uark.edu/apply/seniorcitizens.php>). (<http://admissions.uark.edu/apply/seniorcitizens.php>)

3. Students who already have a college degree and who want to take credited classes but not earn credit toward another degree at this time. Credits earned under this classification will not count toward a graduate degree.

**Application procedure:** Submit a completed application and non-refundable application fee. Students who wish to enroll for successive terms should submit a transcript showing their degree.

4. Dually enrolled high school students. Dually enrolled high school students must have at least a 20 ACT score and a 3.00 high school GPA to enroll. Dually enrolled high school students are ineligible to enroll in remedial courses.

**Application procedure:** Submit a completed application, a non-refundable application fee, ACT or SAT scores, a high school transcript, a letter of intent regarding courses in which the student wishes to enroll, and a letter of recommendation from the high school principal or counselor. Admissions applications should be submitted at least one month in advance of the term.

Dually enrolled high school seniors who plan to enroll in the fall as regular freshmen must submit a separate application for regular admission for the fall.

## Placement and Proficiency Tests

ACT, SAT, ACT COMPASS, and College Board Accuplacer scores are used to determine placement in university courses. Students whose scores indicate the need for additional preparation may be placed in courses designed to prepare them for college-level work. (See Arkansas Requirements for Developmental Course Placement (p. 57).) Credit earned in such courses does not count toward degrees in all colleges. (See Courses That Do Not Count toward Degrees (p. 57).)

## Freshman Composition Placement

- Students with ACT English scores lower than 19, SAT verbal scores lower than 450, ACT COMPASS writing skills scores lower than 80, or College Board Accuplacer sentence skills scores lower than 83 should enroll in the course sequence ENGL 0002 (ENGL 1014 beginning Spring 2018 pending approval) and ENGL 1023.
- Students with ACT English scores of 19-27, SAT verbal scores of 480-620, ACT COMPASS writing skills scores of 80 or higher, or College Board Accuplacer sentence skills scores of 83 or higher should enroll in ENGL 1013 and ENGL 1023.
- Students with ACT English scores of 28-29 or SAT verbal scores of 630-670 may enroll in ENGL 1013 and ENGL 1023 or in ENGL 1013H and ENGL 1023H.
- Students with ACT English scores greater than 29 or SAT verbal scores greater than 680 may enroll in ENGL 1013H and ENGL 1023H or elect exemption. Some degree programs require credit in composition, and students should confer with their advisors before exempting.

## The Math Placement Test

All new first-year freshman students will be required to take the online mathematics placement assessment, available starting in April. To take the assessment, or for more information regarding it and its requirements, visit the University of Arkansas Mathematical Sciences website (<http://math.uark.edu>).

## Arkansas State Requirements for Developmental Course Placement

Arkansas law specifies that all first-time entering freshmen enrolled in a bachelor's degree program will be placed in either college-level credit courses in English and mathematics or remedial courses in English



composition, reading, and mathematics on the basis of their scores on specified tests.

- Students who score below 19 on the English section of the ACT, below 450 on the verbal section of the SAT, below 80 on the Compass English section, or below 83 on the Accuplacer reading section must enroll in ENGL 0002 concurrently with ENGL 1013. This sequence will be replaced by one course, ENGL 1014, beginning Spring 2018 pending approval.
- Students who score below 19 on the reading section of the ACT, below 470 (Pre-March 2016) on the verbal section of the SAT, below 82 on the Compass reading section or below 78 on the Accuplacer reading section must enroll in PLSC 2003. Completion of PLSC 2003 with a grade of "C" or better will satisfy the reading requirement.
- Students who score below 19 on the mathematics section of the ACT, below 460 (Pre-March 2016) / 500 (Post-March 2016) on the quantitative portion of the SAT, below 41 on the math Compass section, or below 42 on the Accuplacer college-level math section must enroll in MATH 1204C beginning in Spring 2018 pending approval. (The Mathematical Sciences Department requires higher ACT/SAT scores for students to be placed in Math courses above MATH 1204C. Please see the Course Descriptions (p. 731) for MATH for details.)

Students may place out of these prescribed remedial courses with appropriate scores on the relevant subject placement tests offered through the appropriate university department:

- Students may place out of ENGL 0002 (ENGL 1014 beginning Spring 2018 pending approval) by earning a score of 80 or higher on the Compass writing skills section or a score of 83 or higher on the Accuplacer sentence skills section, or by demonstrating college-level writing skills on a required essay administered during the first week of class. Students in ENGL 1013 who exhibit writing challenges in their first essay may be asked to enroll concurrently in ENGL 0002 (or move to ENGL 1014 beginning Spring 2018 pending approval).
- Students who earn 70% or higher on the PALG section of the Math Placement Test may enroll in MATH 1204, a course that combines a review of pre-college algebra with college-level algebra; students who earn 80% or higher on the PALG section of the Math Placement Test may enroll in MATH 1203. Refer to information about the Math Placement Test ([http://fulbright.uark.edu/departments/math/undergraduate/math\\_placement\\_test.php](http://fulbright.uark.edu/departments/math/undergraduate/math_placement_test.php)).

Students will be required to register for these courses during their first term at the university and, if necessary, in subsequent terms until passing grades have been earned in all required courses. Students who need further information or clarification are encouraged to discuss their course placement with their academic advisor or dean.

## Courses That Do Not Count toward a Degree

The following courses do not count toward degree credit in any college or school: ENGL 0002, ENGL 0013, and MATH 0003.

The following courses do not count toward any degree in the College of Engineering: MATH 1203, MATH 1213, MATH 1284C, and ENGL 2003.

## Speech Communication Exemption Examination

Students who have had speech in high school and/or experience in public speaking may elect to take this test for exemption from or credit in COMM 1313. Both the written and oral (a five-minute impromptu speech) examinations must be passed to receive exemption or credit.

## World Language Placement Examinations

Students with previous world language experience in French, German, or Spanish are encouraged to take language placement examinations offered during summer orientation. Those test scores will be used by academic advisers to determine an appropriate world language placement level. Students who omit one or more courses in the basic language sequence will receive credit for omitted courses when they have validated their high placement by passing the course into which they were placed with a "C" or better. Conversation courses (3033, 4033) and self-paced (correspondence) courses may not be used to validate such prior knowledge.

## General Chemistry Placement Examinations

These tests will be offered throughout the year. Students who performed at above average levels in high school chemistry may find it to their advantage to enroll directly in the second semester of general chemistry. This examination is designed to provide guidance in making this course selection. Students who place into the second semester of general chemistry and earn a grade of "C" or better in the course will also receive credit for the first semester of the course.

## English Language Use by Non-Native Speakers

Non-native speakers of English admitted to undergraduate study at the University of Arkansas are required to present an acceptable writing score on one of the following tests: Internet based TOEFL (iBT), IELTS PTE Academic, or ELPT. Depending on exam scores, a student may be required to take one or more English Language and Culture (ELAC) courses prior to the beginning of classes in their first term of study. Non-native speakers in the following categories are exempt from this requirement:

1. Undergraduate students who transfer at least 24 hours of credit from U.S. institutions, including courses that meet the freshman composition requirement;
2. Undergraduate students who have completed grades 10 through 12 in and graduated from a U.S. high school and have obtained an ACT English section score of 19 or above or a SAT verbal score of 500;
3. Undergraduate students with a TOEFL iBT writing score of 28 or IELTS writing score of 6.5 or PTE Academic writing score of 77 or ELPT writing score of 81.

Diagnostic and placement testing is designed to test students' ability to use English effectively in an academic setting, and its purpose is to promote the success of non-native speakers in completing their chosen course of study at the University of Arkansas. Test results provide the basis for placement into English Language and Culture (ELAC) support courses or course sequences. Courses are offered by the Graduate School and International Education for those students whose language skills are diagnosed as insufficient for college-level work at the level to which they have been admitted (undergraduate or graduate study). Credit in ELAC courses may count toward University of Arkansas degrees. Non-

native speakers diagnosed as having language competence sufficient for their level of study will not be required to enroll in ELAC courses.

The ELPT is administered by Testing Services during New Student Orientation, and there is a \$15.00 charge.

Undergraduate and graduate students assessed ELAC courses are required to complete these courses during their first semester of enrollment at the university.

## Readmission

Any former student who wishes to return to the University of Arkansas after missing a fall or spring semester should complete an application for admission. Students enrolled in University of Arkansas self-paced (correspondence) courses during their absence must be readmitted. A non-refundable application fee is required for former students.

## When to Apply

An early readmission will enable a student to register during priority registration. The student should submit an application and all appropriate credentials at least one month prior to the time of registration. Registration dates and procedures are found on the Schedule of Classes (<http://registrar.uark.edu/465.php>).

## Deadlines for Admission Consideration

Applications and required transcripts must be received in the Office of Admissions by the following deadlines to be accepted for the respective enrollment periods:

- Fall – August 1
- Spring – December 20

Students who are unable to submit their applications by the deadline may be denied admission and considered for admission for the following term.

## Requirements

1. Students must be academically eligible to return to the university and are readmitted with the same academic status as held during their last attendance. Course work taken at another institution will not affect a student's probationary status or university GPA. Students may change degree programs on re-admission to the University of Arkansas regardless of academic status, except for students entering the College of Engineering. A student who is not in good standing may not enter the College of Engineering. Students who have not satisfied their initial provisions of admission (but are still eligible to return) will be required to satisfy those conditions upon their return.
2. Students who have attended another institution while away from the University of Arkansas will be considered returning transfer students and must have either a 2.00 GPA on all college work attempted and/or a 2.00 GPA on all course work attempted since last attending the University of Arkansas. Official transcripts of all course work attempted since last attendance at the university must be submitted. (See Admission of Transfer Students.)
3. Students who previously attended or currently attend the university as special, non-degree seeking students and wish to return as degree-seeking candidates must apply for admission as freshmen or transfer students, furnishing all appropriate admission credentials, including any required test scores. All requirements for admission to regular status must be met. (See appropriate section of this catalog for requirements.)

4. Former students who are submitting petitions to either the Academic Standards Committee or the Admission and Appellate Board to request readmission must have on file all required documents by the application deadlines. (See the Academic Standards Committee Calendar (<http://registrar.uark.edu/508.php>) for deadlines for submitting petitions.)

## School of Law

A baccalaureate degree is required for admission to the University of Arkansas School of Law, except for those students in the J. William Fulbright College of Arts and Sciences or in the Dale Bumpers College of Agricultural, Food and Life Sciences who are admitted to the special six-year program. All applicants for admission are required to take the LSAT. (See the Fulbright College Pre-Law Program (p. 186) or the Dale Bumpers College of Agricultural, Food and Life Sciences (p. 96).)

For complete details concerning admission to the University of Arkansas School of Law, see the Admission page (p. 43) or write to Office of Admissions, Leflar Law Center, University of Arkansas, Fayetteville, AR 72701; or by calling 479-575-3102. Applications can be submitted online at [apply.uark.edu/](http://apply.uark.edu/).

## Transfer Students

### Transfer Admission Requirements

Applicants who have attended other colleges or universities after high school graduation are considered transfer students. Applicants must submit official transcripts of all previous college courses attempted, whether or not credit was earned and regardless of whether the applicant wishes to transfer any credit to the University of Arkansas. Transcripts from each institution attended should be sent directly to the Office of the Registrar. All transfer students must meet the following requirements:

1. Have a cumulative GPA of at least 2.00 on all course work attempted;
2. Be eligible to return to the last institution attended. Grade-point average is calculated on all coursework attempted.

Students who have completed fewer than 24 transferable semester hours must, in addition to the above requirements, meet all requirements for freshman admission (see Admission of Entering Freshmen (p. 45)). Test scores and transcripts are also evaluated to determine whether State of Arkansas requirements for developmental course placement have been met. (See Registration (p. 57).) For policies regarding transfer of credit from other institutions, see Academic Regulations (p. 79).

## Financial Aid and Scholarships

### Financial Aid

The University of Arkansas annually awards nearly \$180 million of financial aid and scholarships to students. Financial aid is divided into categories of grants, work, loans, and scholarships. Unless otherwise specified, a student needs to complete only two forms to apply for federal aid: the Free Application for Federal Student Aid (FAFSA), which analyzes the ability of the student's family to pay for college, and the university's application for admission. These forms collect information used by the Office of Financial Aid in determining awards. In some cases, copies of the parents' and/or student's tax return transcripts and verification documents are needed.

The Financial Aid Office (<http://finaid.uark.edu>) is part of Enrollment Services and is housed in Silas Hunt Hall, Room 114.

## Scholarships

The University of Arkansas Academic Scholarship Office awards scholarships totaling more than \$12 million for students each year. This total does not include funds that support external scholarships held by U of A students such as Governor's Scholarships, Arkansas Academic Challenge Scholarships, or non-resident tuition waivers. Scholarships funded by the university fall into three broad categories: distinguished fellowships, academic scholarships, and special interest/skills scholarships. The scholarship information contained in this section applies to students entering for the 2016-17 academic year. Current high school students interested in matriculating for the 2017-18 academic year are encouraged to consult the Office of Academic Scholarships for the most up-to-date information.

The Academic Scholarship Office (<http://scholarships.uark.edu>) is part of Enrollment Services and is housed in Silas Hunt Hall, Room 114.

## College and Departmental Scholarships

The following college and departmental scholarships are available to both entering and currently enrolled students at the University of Arkansas. Complete addresses and phone numbers of the colleges, schools, or departments listed below may be found in the respective college or school sections of this catalog.

### Fay Jones School of Architecture and Design

The Fay Jones School of Architecture and Design offers a limited number of scholarships at various amounts to entering freshman in any of the degree programs offered by the School. Several scholarships are renewable annually to the recipient who maintains all the requirements of the scholarship.

Many upper level scholarships are available to continuing students. Applications are available in the fall, and recipients are selected in the spring for the following academic year. Find out more information about the Jones School's scholarship applications (<http://fayjones.uark.edu/admissions>).

### J. William Fulbright College of Arts and Sciences

The J. William Fulbright College of Arts and Sciences offers many outstanding scholarship opportunities. For comprehensive information about these awards, call 479-575-5219 or visit the Fulbright College's scholarships page (<http://fulbright.uark.edu/deans-office/offices-and-services/scholarships-and-fellowships>).

Three college-wide scholarships merit special attention: Through the Sturgis Fellowship Program, Fulbright College offers premier scholarships worth \$70,000 over four years to exceptionally talented students with the intellectual potential to become future leaders in society. In addition, all honors students are eligible to apply for research and study abroad funding through the Sturgis Grants Program. For information or an application, contact the Director of Honors Studies at 479-575-2509.

The King Fahd Center for Middle East and Islamic Studies offers substantial four-year and two-year renewable scholarships to superior students majoring in Middle East Studies. The program also offers competitive funding for language study in Morocco, Tunisia, and Egypt. Funding for summer study abroad and research projects is considered

on a case-by-case basis. Scholarship applications and information about the program can be obtained by contacting [mest@uark.edu](mailto:mest@uark.edu) or calling 479-575-4157.

In honor of the Fulbright commitment to international education, the college offers the J.W. and Elizabeth W. Fulbright Endowed Scholarship, which supports a year of study abroad. To qualify, students must display an interest in one of the following fields: literature, history (including theatre, art, and music history), jurisprudence, philosophy, archaeology, comparative languages, and those aspects of the social sciences that employ philosophical or historical approaches. For more information about these opportunities, call 479-575-5219 or visit the Fulbright College's scholarships page (<http://fulbright.uark.edu/deans-office/offices-and-services/scholarships-and-fellowships>).

### Dale Bumpers College of Agricultural, Food and Life Sciences

Scholarships for students seeking rewarding careers involving food, family, or the environment are made possible by generous gifts from many firms and individuals. The criteria for these scholarships include academics, financial need, interests, organizational involvement, and leadership. Bumpers College scholarships include the Division of Agriculture Land Grant Scholars Endowment Program which offers renewable scholarships to high achieving students; The Dale Bumpers Distinguished Scholars Program which provides an annual scholarship to an outstanding transfer student, an outstanding Ph.D. graduate student, and an outstanding M.S. graduate student; and International Study Abroad scholarships for students expanding their experiences around the world.

Information and application procedures for the more than 200 Bumpers College and departmental scholarships are available at the Bumpers College scholarship page (<http://bumperscollege.uark.edu/academics/scholarships-and-financial-aid>) or by contacting the Associate Director of Scholarship at 479-575-2252, or via email to [dbcafls@uark.edu](mailto:dbcafls@uark.edu).

### Sam M. Walton College of Business

The Boyer Fellowship is offered to Walton College students who have achieved at an outstanding level both in and out of the classroom. High grades and standardized test scores are required along with a strong academic curriculum and exceptional academic performance. Applicants for the Boyer Fellowship also must demonstrate financial need, be an Arkansas resident, and graduate from an Arkansas high school.

Other scholarships are available through the departments of accounting, information systems, economics, finance, management, marketing, and supply chain management, as well as through the Walton College's general scholarship program. Scholarships are primarily awarded on the basis of academic achievement and/or financial need.

For further information on Walton College scholarships, contact the Undergraduate Programs Office at 479-575-4622.

### College of Education and Health Professions

The College of Education and Health Professions offers several scholarship awards in varying amounts each year. Recipient selection is based on a variety of attributes that are specific to each award. Attributes may include but are not limited to: academic achievement, financial need, and character.

Scholarship applications are available during the month of January each year. The application is electronic and can be found on the college's scholarship website (<http://coehp.uark.edu/scholarships>). Applications must be submitted by January 31st. All current and future students are strongly encouraged to apply. For further information please contact Lori Foster at 479-575-3208 or [lfoste@uark.edu](mailto:lfoste@uark.edu).

## College of Engineering

The College of Engineering awards numerous scholarships and fellowships beginning with the sophomore year to continuing students, transfer students, and graduate students. Most scholarships are based primarily on academic performance. However, some scholarships are also awarded on the basis of financial need and diversity. Scholarships are available from both the college and its individual departments.

College scholarships are available to any engineering student while departmental scholarships are intended for students enrolled in a particular discipline of engineering. Students must be admitted to the University of Arkansas and accepted into the College of Engineering to qualify and receive either a college or departmental scholarship. The college has a one-step application process that allows students to be considered for all college level scholarships and departmental scholarships.

For more information concerning scholarship and diversity opportunities, please see the college's scholarship website (<http://engineering.uark.edu/academics/scholarships-and-financial-aid.php>).

## Music and Band

The Department of Music offers scholarships (both music scholarships and band scholarships) for talented students who sing or play instruments. All scholarships are based on musical ability, academic achievement, and potential contribution to music department ensembles. Scholarships are renewable for up to five years (ten semesters), as long as the student meets the conditions specified on the scholarship letter or contract.

Music and band scholarships are available to music majors and to students majoring in other areas who participate in certain ensembles. All scholarships require an audition. To set up an audition, contact the music department at 479-575-4701 or the band office at 479-575-4100.

## Financial Aid

The University of Arkansas annually awards nearly \$180 million of financial aid and scholarships to students. Financial aid is divided into categories of grants, work, loans, and scholarships. Students need to complete the Free Application for Federal Student Aid (FAFSA), which analyzes the ability of the student's family to pay for college, as well as the various scholarship applications offered through the Academic Scholarship Office, the university's colleges and departments, and the Arkansas Alumni Association. These forms collect information used by the Office of Financial Aid and the university's scholarship committees in determining awards. In some cases, copies of the parents' and/or student's tax return transcripts and other verification documents are needed.

## Determining Financial Need

To determine financial need, a student must complete the FAFSA. Students release their information to the University of Arkansas by

completing the college release section with the University of Arkansas Title IV Code of 001108.

There is a priority date of **March 1** for the submission of the FAFSA for the approaching school year for new students. Federally funded financial aid will be awarded on the basis of need as reflected by the FAFSA.

The Student Aid Report from the FAFSA (consisting of several pages) will be sent directly to the student by the Central Processing Service. A student needs to be enrolled or accepted for enrollment before a financial aid award may be generated. To continue receiving financial aid, the student needs to make satisfactory progress toward a degree, as defined by the University of Arkansas, and complete the FAFSA each year. (See Satisfactory Academic Progress below.)

## Application Procedure

1. Apply for admission to the university, if not currently enrolled or admitted.
2. Complete the Free Application for Federal Student Aid (FAFSA) and submit it to the federal processor by mail or online. You may submit the FAFSA at the Federal Student Aid website (<http://www.fafsa.ed.gov>).

To receive priority consideration for financial aid, all forms and applications need to be submitted by March 1. Students are encouraged to apply even if they miss this priority date. Funds will be available after the priority date.

A student has a couple of choices concerning processing his or her FAFSA. These include mailing the form to the Federal Student Aid Programs or submitting it electronically on the Federal Student Aid website (<http://www.FAFSA.ed.gov>). The processing time for electronic applications is three days, and processing time for mailed applications is four to six weeks.

## Satisfactory Academic Progress (SAP)

Federal regulation requires that a student must be making satisfactory academic progress regardless of whether he or she has previously received Title IV aid. All students enrolled at the University of Arkansas who receive financial aid through the Title IV Assistance Programs must meet satisfactory academic progress requirements as defined below to be eligible for further aid. Satisfactory academic progress is deemed to have been made by any undergraduate student who meets both the quantitative and qualitative requirements indicated below.

## Quantitative Requirements

There are two quantitative requirements that the student must meet in order to remain eligible to apply for federal financial assistance. First, the student must pass, at a minimum, 67% of the credits attempted while attending the university. For the purpose of the 67% rule, grades of 'W' and 'I' are not considered passing grades and the completion percentage is truncated after the first decimal place and rounded to the nearest whole number. In addition, the student will remain eligible to apply for aid as long as the number of credits required for the student's published degree plan.

A transfer student may have earned credits at another school that will count toward his or her degree at the University of Arkansas. Class credits transferred to the University of Arkansas and classes taken for remediation at the University of Arkansas are used in both the 67% and 150% calculation.

The determination of each student's meeting the quantitative requirements for satisfactory academic progress will be made annually following the conclusion of the spring semester. If a student fails to pass at least 67% of the credits attempted or has attempted more than 150% of the number of credits required for graduation, then the student must appeal for reinstatement of financial aid eligibility.

## Qualitative Requirements

A student is deemed to have met the qualitative requirements for satisfactory academic progress for financial aid purposes provided the student's cumulative GPA is 2.0 or greater. By default, students who do not have any university credit will pass the qualitative requirement. The determination of each student's meeting the qualitative requirement for satisfactory academic progress will be made annually following the conclusion of the spring semester.

## Additional Information About SAP Calculations

Dual majors and degrees are calculated at 150% of the total unit requirements of the primary plan. Changing of major will mean future SAP calculations will use the new primary plan or degree but all previous completed and attempted hours will still be used in SAP calculations. All transfer hours will be added into calculations as completed and attempted. Once an undergraduate degree is earned, students are only eligible for direct loans whether the degree is indicated by graduation or not. For second degrees, the calculation will monitor progress from the date of the previous degree (excluding technical certificates and associate degrees).

## Graduate and Law Students

Satisfactory academic progress for **graduate and law students** is determined as described above with one exception. In order to meet the quantitative requirement that students pass at least 67% of credits attempted, **graduate and law** students must pass each course with a grade of C or better while attending the university at the graduate level.

## Satisfactory Academic Policy Appeals

When a student loses federal aid eligibility because they failed to make satisfactory progress, they may appeal that result because of their injury or illness, the death of a relative, or other special circumstances. Their appeal must explain why they failed to make satisfactory progress and what has changed in their situation that will allow them to make satisfactory progress at the next evaluation. The only way to regain aid eligibility without a successful SAP appeal is by meeting the SAP criteria above.

*Students who fail to meet the above requirements will be notified that their financial aid has been denied. Each student denied aid will automatically be given an option to appeal to the Student Aid Committee. The Committee will review each appeal on an individual basis to determine whether there are circumstances beyond the student's control that prevented him or her from maintaining satisfactory progress. The decision of the Committee is final in appeal matters.*

## Scholarships

The Academic Scholarship Office is a part of Enrollment Services and is housed in Silas Hunt Hall, Room 114.

The Academic Scholarship Office awards over 4,000 scholarships totaling more than \$12 million for students each year. This total does not include funds that support external scholarships held by UA students such as Governor's Scholarships, Arkansas Academic Challenge Scholarships,

or non-resident tuition waivers. Scholarships funded by the university fall into three broad categories: prestigious fellowships, academic scholarships, and special interest/skills scholarships. The scholarship information contained here applies to students entering for the 2016-17 academic year. Current high school students interested in matriculating for the 2017-18 academic year are encouraged to consult the Academic Scholarships Office website at Academic Scholarship Office website (<http://scholarships.uark.edu>) for the most up-to-date information.

## Scholarships for New Students

### Prestigious Fellowships

The University of Arkansas offers approximately 90 prestigious fellowships per year. The fellowships are given in one of four different programs: Honors College Fellowships, established in 2002; Bodenhamer Fellowships, established in 1998; Sturgis Fellowships, established in 1985; and Boyer Fellowships, established in 2000. The prestigious fellowships are among the most competitive in the nation and are awarded to the top 2 percent of students. U of A Fellowships are awarded competitively. Students who wish to apply should visit the Honors College website (<http://honorscollege.uark.edu>).

Name	Annual Award	Eligibility Criteria	Application Procedure	Renewal Criteria
Honors College Fellowship	\$17,500 per year and includes partial out-of-state tuition differential based on hours enrolled.	32 ACT/1400 SAT (Pre-March 2016) or 1450 SAT (Redesigned SAT) and 3.80 GPA or higher. Strong academic curriculum and exceptional academic performance. Letters of recommendation required. Competitively awarded.	Requires application for admission along with the Honors College Fellowship application Deadline: November 15 (Scholarship Priority Deadline) February 1	Cumulative 3.00 GPA and 30 hours earned by the end of the second semester of each academic year. Renewable for 4 years or 8 semesters total. (For programs with degree plans longer than 4 years, extra semester(s) of funding may be available.)

**Bodenhamer Fellowship** \$17,500 per year and includes partial out-of-state tuition differential based on hours enrolled. 32 ACT/1400 SAT (Pre-March 2016) or 1450 SAT (Redesigned SAT) and 3.80 GPA or higher. Strong academic curriculum and exceptional academic performance. Demonstrated leadership. Letters of recommendation required. Competitively awarded.

Requires application for admission along with the Honors College Fellowship application. Priority Deadline: November 15 (Scholarship Priority Consideration Final Deadline) February 1

Cumulative 3.00 GPA and 30 hours earned by the end of the second semester of each academic year. 4 years or 8 semesters total. Renewable for 4 years or 8 semesters total. (For programs with degree plans longer than 4 years, extra semester(s) of funding may be available.)

**Sturgis Fellowship** \$17,500 per year and includes partial out-of-state tuition differential based on hours enrolled. For majors in Fulbright College of Arts & Sciences. 32 ACT/1400 SAT (Pre-March 2016) or 1450 SAT (Redesigned SAT) and 3.80 GPA or higher. Strong academic curriculum and exceptional academic performance. Demonstrated intellectual curiosity and creative pursuits. Letters of recommendation required. Competitively awarded.

Requires application for admission along with the Honors College Fellowship application. Priority Deadline: November 15 (Scholarship Priority Consideration Final Deadline) February 1

Cumulative 3.00 GPA and 30 hours earned by the end of the second semester of each academic year. Renewable for 4 years or 8 semesters total.

**Boyer Fellowship** \$18,000 per year For majors in the Sam M. Walton College of Business. 32 ACT/1400 SAT (Pre-March 2016) or 1450 SAT (Redesigned SAT) and 3.75 GPA or higher OR National Merit Achievement semifinalist. Strong academic curriculum and exceptional academic performance. Letters of recommendation required. FAFSA demonstrated financial need required. Graduation from an Arkansas high school and Arkansas residency required. Competitively awarded.

Requires application for admission along with the Honors College Fellowship application (honorscollege) the second semester of each academic year. Priority Deadline: November 15 (Scholarship Priority Consideration Final Deadline) February 1

Cumulative 3.50 GPA, good standing In the honors program and 30 hours earned by the end of the second semester of each academic year. Renewable for 4 years or 8 semesters total.

## Academic Scholarships

A number of academic scholarships also are awarded to entering freshmen. Selection criteria include national test scores (ACT or SAT), grade-point average, National Merit or National Achievement recognition, quality and quantity of courses taken, application materials, and other pertinent factors. For online information, go to [scholarships.uark.edu](http://scholarships.uark.edu). Transfer student scholarships are awarded to students transferring from two-year colleges in Arkansas in conjunction with the Arkansas Association of Two Year Colleges' (AATYC) Academic All-Star program. Nominations are submitted to the AATYC and recognized at their annual conference. Additional transfer student scholarships are also available. See [scholarships.uark.edu](http://scholarships.uark.edu).

Name	Annual Award	Eligibility Criteria	Application Procedure	Renewal Criteria					
Chancellor's Merit Scholarship	Up to \$10,000, plus the amount of either a Corporate or a UofA National Merit Scholarship, per year toward the direct cost of education, includes partial out-of-state tuition differential	National Merit or National Achievement finalists. Exceptional academic performance. Competitively awarded.	Apply for admission. Complete Entering Freshman Scholarship Application ( <a href="http://scholarships.uark.edu">http://scholarships.uark.edu</a> ) Priority Deadline: November 15	Cumulative 3.00 GPA and 30 hours earned by the end of the second semester of each award year. 4 years or 8 semesters total (5 years for the Bachelor of Architecture, Bachelor of Landscape Architecture, and Master of Arts in Teaching programs).	Honors College Academy Scholarship	\$4,000 per year	Top applicants from the applicant pool with a minimum 27 ACT and 3.50 GPA. Competitively awarded.	Apply for admission. Complete Entering Freshman Scholarship Application ( <a href="http://scholarships.uark.edu">http://scholarships.uark.edu</a> ) Priority Deadline: November 15	Criteria same as for Chancellor's Merit Scholarship (see above).
Chancellor's Merit Scholarship	Up to \$8,000 per year toward direct cost of education, including tuition, fees and double-occupancy room and board in UA residence hall or Greek housing.	Applications are competitive and typically come from the top 5 percent of the applicant pool. National Merit Semifinalists and National Achievement Semifinalists are also considered. Competitively awarded.	Apply for admission. Complete Entering Freshman Scholarship Application ( <a href="http://scholarships.uark.edu">http://scholarships.uark.edu</a> ) Priority Deadline: November 15	Criteria same as for Chancellor's Merit Scholarship (see above).	New Arkansan Non-Resident Tuition Scholarship Award	Partial out-of-state tuition differential. Variable amount based on hours enrolled. See <a href="http://nrta.uark.edu">http://nrta.uark.edu</a> for more information.	Students from TX, MS, LA, KS, MO, OK or TN. Entering freshmen for Fall 2016 must have at least a 3.20 GPA and score 24 on the ACT or an equivalent 1090 SAT critical reading and math combined (Pre-March 2016) or an equivalent 1160 SAT (Redesigned SAT); Transfer students must have 24 credit hours and at least a 3.00 GPA.	Apply for admission. No scholarship application is required.	Renewable with completion of 24 hours per academic year and 2.75 minimum GPA. Up to 4 years (5 years for students in Architecture or the Master of Arts in Teaching program).
Chancellor's Community Scholarship	\$5,000 per year	Top applicants in the applicant pool who also have a demonstrable commitment to community service.	Apply for admission. Complete Entering Freshman Scholarship Application ( <a href="http://scholarships.uark.edu">http://scholarships.uark.edu</a> ) Priority Deadline: November 15	Criteria same as for Chancellor's Merit Scholarship (see above).	Freshman Success Scholarship	\$2,000 non-renewable	Students who have demonstrated outstanding academic achievement. Competitively awarded.	Apply for admission. Complete Entering Freshman Scholarship Application ( <a href="http://scholarships.uark.edu">http://scholarships.uark.edu</a> ) Priority Deadline: November 15	Non-renewable

Freshman Academic Scholarship	\$1,000 non-renewable	Students who have demonstrated outstanding academic achievement. Competitively awarded.	Apply for admission. Complete Entering Freshman Scholarship Application ( <a href="http://scholarships.uark.edu">http://scholarships.uark.edu</a> ) Priority Deadline: November 15	Non-renewable	Razorback Bridge Scholarship	\$3,500 per year	Students who have demonstrated outstanding academic leadership qualities and potential and are from under-represented communities, which include but are not limited to: underrepresented ethnic and minority groups; students with interest in fields of study that do not attract members of their ethnicity or gender; under-represented counties in Arkansas; or first-generation college students. Competitively awarded.	Apply for admission. Complete Entering Freshman Scholarship Application ( <a href="http://scholarships.uark.edu">http://scholarships.uark.edu</a> ) Priority Deadline: November 15	Criteria same as for Chancellor's Merit Scholarship (see above).
University of Arkansas Leadership Award	\$2,000 per year	Students who have demonstrated outstanding academic achievement and leadership potential. Competitively awarded.	Apply for admission. Complete Entering Freshman Scholarship Application ( <a href="http://scholarships.uark.edu">http://scholarships.uark.edu</a> ) Priority Deadline: November 15	Criteria same as for Chancellor's Merit Scholarship (see above).					
Silas Hunt Distinguished Scholarship	Variable awards of \$5,000 or \$8,000	Students who have demonstrated outstanding academic leadership qualities and potential and are from under-represented communities, which include but are not limited to: underrepresented ethnic and minority groups; students with interest in fields of study that do not attract members of their ethnicity or gender; under-represented counties in Arkansas; or first-generation college students. Competitively awarded.	Apply for admission. Complete Entering Freshman Scholarship Application ( <a href="http://scholarships.uark.edu">http://scholarships.uark.edu</a> ) Priority Deadline: November 15	Criteria same as for Chancellor's Merit Scholarship (see above).					



University Enrichment Scholarship	\$2,000 non-renewable	Students who have demonstrated outstanding academic leadership qualities and potential and are from under-represented communities, which include but are not limited to: underrepresented ethnic and minority groups; students with interest in fields of study that do not attract members of their ethnicity or gender; under-represented counties in Arkansas; or first-generation college students. Competitively awarded.	Apply for admission. Complete Entering Freshman Scholarship Application ( <a href="http://scholarships.uark.edu">http://scholarships.uark.edu</a> ) Priority Deadline: November 15	Non-renewable
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Jewel Minnis Scholarship	\$2,000 non-renewable	Students who have demonstrated outstanding academic achievement. Competitively awarded.	Apply for admission. Complete Entering Freshman Scholarship Application ( <a href="http://scholarships.uark.edu">http://scholarships.uark.edu</a> ) Priority Deadline: November 15	Non-renewable
Arkansas Academic All Star Transfer Scholarship	AATYC Academic All Star receives annual award that pays tuition and tuition related fees up to \$5,000 per semester.	Awarded to students named the "Academic All-Star" by their Arkansas two-year college.	Students nominated as AATYC Academic All Star by their two-year college. Scholarship application is not required.	Maintain 3.00 cumulative U of A GPA after each semester. Renewable up to five semesters.

Chancellor's Transfer Scholarship	\$3,000 per year	Arkansas residents with strong academic performance at Arkansas two-year colleges. Competitively awarded.	Deadline: April 1 for fall semester and October 15 for spring semester	Cumulative 3.00 GPA and 24 hours per year of eligibility. Renewable for one year.
Phi Theta Kappa Transfer Scholarship	\$2,500 per year	Awarded to top applicants from two-year colleges who are members of Phi Theta Kappa. Competitively awarded.	Deadline: April 1 for fall semester and October 15 for spring semester. Provide Phi Theta Kappa membership documentation.	Cumulative 3.00 GPA and 24 hours per year of eligibility. Renewable for one year.
Transfer Scholarship	\$2,000 per year. Renewable for one year.	Strong academic performance at another 2-year or 4-year college or university. Competitively awarded.	Deadline: April 1 for fall semester and October 15 for spring semester	Cumulative 3.00 GPA and 24 hours per year of eligibility. Renewable for one year.

## UA Scholarships – General Information

The following regulations govern the general university freshman scholarships described below:

- November 15** is the priority scholarship deadline for entering freshmen. Applicants must apply to the university by November 1 to be considered for these scholarships.
- An "entering freshman" is defined as a student who has not enrolled in another post-secondary institution in a fall or spring semester following graduation from high school.
- Eligibility for renewal of the Chancellor's Scholarship and general university scholarships is determined at the end of the second semester each award year. Students may "catch up" in summer terms by taking classes at their own expense on the Fayetteville campus.
- These scholarships are generally awarded per academic year to cover the fall and spring terms, up to an eight-semester maximum for most students, or a ten-semester maximum for students in the Bachelor of Architecture, Bachelor of Landscape Architecture and the Master of Arts in Teaching programs, each of which is a five-year program. Renewal criteria are evaluated every two semesters.

## Special Scholarships and Conditions

### ACT 1185

Arkansas income taxpayers who earn a minimum of \$5,500 in wages and, with their dependents, reside in a bordering state in a county or parish contiguous to an Arkansas county in which a public institution of

higher education is located may enroll at the University of Arkansas and receive the non-resident tuition award under the provisions of ACT 1185 of 1995, Section 34. The availability of funds may vary each year, and the students must provide certain documentation. Please contact the Academic Scholarship Office at 479-575-4464 for more information.

## Arkansas Alumni Association Scholarships

The Arkansas Alumni Association, through its members, donors, chapters, and societies, sponsors five scholarship and grant programs. See brief information in the chart below. For information on the association's scholarship program, visit the Arkansas Alumni Association website (<http://www.arkansasalumni.org/s/1429/start.aspx>).

Name	Annual Award	Eligibility Criteria	Application Procedure	Renewal Criteria
Alumni Association Endowed Scholarship	\$6,500 per year for four years	Incoming freshmen with a minimum GPA of 3.60 and 24 ACT or 1090 SAT (Pre-March 2016) or 1160 SAT (Redesigned SAT)	Complete Arkansas Alumni Association Freshman Scholarship Application ( <a href="http://www.arkansasalumni.org/freshmanscholarships">www.arkansasalumni.org/freshmanscholarships</a> )	Cumulative 3.00 GPA and 30 hours earned by the end of the second semester
Arkansas License Plate "Roads" Scholarship/Alumni Board of Directors Scholarship	\$2,500 per year for four years	Applicant finalists from the Alumni Association Endowed Scholarship who are residents of Arkansas. Non-resident finalists will receive equivalent Alumni Board of Directors Scholarship.	Applications from the Alumni Association Endowed Scholarship will be considered.	Criteria same as for Alumni Endowed Scholarship (see above).

Razorback Generations Scholarship \$2,500 per year for four years Arkansas finalists from the Alumni Association Endowed Scholarship with a family connection to the University of Arkansas, Fayetteville. Applications from the Alumni Endowed Scholarship will be considered. Criteria same as for Alumni Endowed Scholarship (see above).

Alumni Chapter and Society Scholarships	Variable amount based on chapter funds.	Minimum GPA of 3.50 and 24 ACT.	Considered from both the Alumni Scholarship application and private chapter/society applications.	Varies
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Alumni Legacy Scholarship	Partial out-of-state tuition differential. Variable amount based on hours enrolled. See <a href="http://www.arkansasalumni.org/legacyscholarships">http://www.arkansasalumni.org/legacyscholarships</a> for more information.	Non-resident students must have a qualifying family member who is a U of A graduate and member of the Alumni Association. Entering freshmen must have a 3.00 GPA and 20 ACT or 930 SAT (Pre-March 2016) or 1020 SAT (Redesigned SAT). Transfer students must have 24 credit hours and a 3.00 GPA.	Complete the Alumni Legacy Scholarship Application.	Renewable with completion of 24 hours per academic year, 2.75 minimum GPA. Up to 4 years (5 years for students in Architecture or the Master of Arts in Teaching program).
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## Air Force and Army ROTC

The Air Force and Army Reserve Officers' Training Corps programs offer a number of scholarship opportunities for entering freshmen and on-campus students. See the Reserve Officers' Training Corps section of this catalog for detailed information.

## Military Benefits

The University of Arkansas is approved by the Arkansas Department of Higher Education and the U.S. Department of Veterans Affairs to participate in military educational benefit programs for veterans, current military members, reservists, national guard, and dependents of veterans who are working toward a degree. For more information regarding programs and eligibility please contact the university's Veterans

Resources and Information Center (VRIC) at 479-575-8742 or <http://veteranscenter.uark.edu>.

## Military Student Scholarships

The University of Arkansas provides three different scholarships to current and former military service members and the dependents of service members. The military service member scholarship provides 35 one-year scholarships in the amount of \$4,000 to support current and former service members. The military dependents scholarship provides 10 one-year scholarships in the amount of \$1,500 to support dependents of service members. The military book scholarship provides 10 one-semester scholarships (each fall and spring semester) in the amount of \$500 to support service members and dependents with book expenses. Students should contact the Academic Scholarship Office at 479-575-4464 or <http://scholarships.uark.edu> for further information.

## Registration

Undergraduate students, including students not declaring a major, must enroll in one of six academic units: the J. William Fulbright College of Arts and Sciences; the Dale Bumpers College of Agricultural, Food and Life Sciences, the Sam M. Walton College of Business, the College of Education and Health Professions, the College of Engineering, or the Fay Jones School of Architecture and Design. Information regarding registration periods and procedures is found on the Registrar's website (<http://registrar.uark.edu>).

## Registration Periods

Students must register during one of the formal registration periods. Currently enrolled students are expected to register during the priority registration held each semester for the following semester. New freshmen are expected to register during orientation. New freshmen not already registered during orientation should register during the open registration period that immediately precedes the beginning of classes each semester. New transfer students should contact their academic college for advising and registration information. There is a late registration period of five days at the beginning of fall and spring semesters, a one-day late registration period at the beginning of intersessions and a one- or two-day late registration period at the beginning of the summer sessions, but students may find that many classes are filled.

## Student Addresses

It is the responsibility of all students to maintain and correct their addresses with the university and to report any change of address promptly either in writing to the Office of the Registrar or on the Student Information System (<http://isis.uark.edu>). Failure to do so may result in undelivered official correspondence and announcements. Emergency contact information is also required.

Important academic announcements are frequently sent to the students through university-assigned email accounts. Students must check this account frequently to avoid missing critical notices.

## Identification Cards

Identification cards are made at orientation and at the ID Card Office during the year. Several privileges on campus require an ID card, and it can be used as a debit card for purchases at various locations throughout the campus. Part-time students are also eligible for a card.

## Academic Advising

Academic advising is an active, ongoing exchange between the advisers and students, grounded in teaching and learning. Advising is based on students gaining accurate and appropriate information and direction to help make their educational experience relevant, coherent, and meaningful. It is a process that assists students in connecting with the University of Arkansas, making thoughtful decisions related to their academic experiences, and maximizing their educational and career opportunities. Quality academic advising is essential to achieving the university's vision. (Academic Advising Council Mission Statement, 2010)

While procedures may vary among schools and colleges, all successful academic advising should include the following:

- A mutual respect between adviser and student with the student possessing final responsibility for successful completion of a degree.
- Respect for students' ethnic and racial heritage, age, gender, culture, national origin, sexual orientation, and religion, as well as their physical, learning, and psychological abilities.
- A developmental and educational process that occurs over time.
- Consideration of individual students' interests, abilities, and needs.
- A collaborative effort to connect students to campus resources and services.
- Reasonable availability and accessibility to advisers.
- Interpretation of University of Arkansas, college, and departmental rules and courses.
- A student's understanding of the purpose and nature of the university core courses.
- Recommendation of appropriate courses.
- A student's understanding of and progress toward academic requirements.
- General information regarding career options and opportunities, with appropriate referrals as necessary.
- An understanding of and adherence to laws and regulations that relate to academic advising.
- Adherence to the highest principles of ethical behavior.

The University of Arkansas is committed to developing each student to his or her fullest potential. To this end, programs in each college have been established to improve the academic achievement and persistence of students on academic warning and of other students in need of academic assistance. Such assistance is provided through a variety of instructional and informational services.

## Courses That Do Not Count toward a Degree

The following courses do not count toward degree credit in any college or school: ENGL 0002 Basic Writing (Sp, Su, Fa), ENGL 0013 Reading Strategies for College Students (Sp, Su, Fa), and MATH 0003 Beginning and Intermediate Algebra (Sp, Su, Fa).

The following courses do not count toward any degree in the College of Engineering: MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa), MATH 1213 Plane Trigonometry (ACTS Equivalency = MATH 1203) (Sp, Su, Fa), MATH 1284C Precalculus Mathematics (ACTS Equivalency = MATH 1305) (Sp, Su, Fa), and ENGL 2003 Advanced Composition (Sp, Su, Fa).

## Adding and Dropping Courses

A currently enrolled student who has registered during the advance registration period should make any necessary or desired schedule adjustments such as adding or dropping courses or changing course sections during the schedule-adjustment period of the same semester. Students may also add or drop courses during the first five class days of a fall or spring semester. Students who drop classes by the fifth day of classes in the fall and spring semesters will have their fees adjusted. (Refer to the Office of the Treasurer's website ([http://treasurer.uark.edu/Drop\\_Add\\_Class.asp](http://treasurer.uark.edu/Drop_Add_Class.asp)) for summer dates and other sessions). Fee adjustments are not done for classes dropped after the first week of class. Drops and withdrawals are two different functions. In a drop process, the student remains enrolled. The result of the withdrawal process is that the student is no longer enrolled for the term. The two functions have different fee adjustment policies. Fee adjustment deadlines for official withdrawal are noted on the Treasurer's Web site.

A student may drop a full-semester course during the first 10 class days of a fall or spring semester without having the drop shown on the official academic record. After the first 10 class days, and before the drop deadline of the semester, a student may drop a course, but a mark of "W," indicating the drop, will be recorded. A student may not drop a full-semester course after the Friday of the thirteenth week of classes in a fall or spring semester. Drop-add deadlines for partial semesters, intersessions, and summer sessions are listed on the semester calendars located on the Office of the Registrar's website (<http://registrar.uark.edu>).

## Audit Registration

Students wishing to audit a class should contact the instructor teaching that class and request permission to audit. If the instructor approves the audit, the academic department will register the student in that class as an audit. Auditing of a class is allowed on a space-available basis, and a student must pay fees for that class. The instructor shall notify the student of the requirements for receiving the mark of "AU" for the course being audited. The instructor and the student's dean may drop a student from a course being audited if the student is not satisfying the requirements specified by the instructor. The student is to be notified if this action is taken. The only grade or mark that may be awarded is "AU."

## Enrollment Status and Course Load

The enrollment status of undergraduate students is based on the number of hours enrolled in a term. The university recognizes full-time status as carrying a minimum of 12 semester hours in a regular (fall and spring) and summer term. Students should be aware that the minimum number of hours is insufficient for completion of a four-year degree program in eight academic semesters (four years). Since most university degree programs require a minimum of 120 semester hours, or 30 hours per year, a student should earn 15 hours per semester to complete most degree programs in four years (eight semesters). The university offers degree-completion plans; see the Office of the Registrar's website (<http://registrar.uark.edu/425.php>) or the Academic Regulations (p. 73) section of this catalog.

The chart below shows the enrollment status for each term, based on hours enrolled.

Term	Hours	Enrollment Status
Fall, Spring, Summer	1-5	Less than half-time

6-8	Half-time
9-11	Three-quarter time
12 or more	Full-time

## Number of Hours Allowed per Semester

The number of hours in which a student is allowed to register includes self-paced (correspondence) courses taken through Global Campus, School of Continuing Education and Academic Outreach.

1. Undergraduate students who wish to enroll in more than 18 hours in a regular term must be approved by their academic dean's office. Enrollment in an intersession is limited to a maximum of one lecture or lab course, with the exception of co-requisite courses, for a maximum of four hours.
2. Undergraduate students who wish to enroll in more than 21 hours in a regular term must get a recommendation from their academic dean's office *and* be approved by the Academic Standards Committee. (<http://registrar.uark.edu/student-records/academic-standards-committee-petition.php>)
3. Undergraduate students who wish to take more than 7 hours in one five-week summer session or more than 14 hours total in the summer term must get a recommendation from their academic dean's office *and* be approved by the Academic Standards Committee. (<http://registrar.uark.edu/student-records/academic-standards-committee-petition.php>)
4. For students with severe injury or illness of a temporary or permanent nature, less than 12 hours may be certified on a semester-by-semester basis as full-time with the approval of the student's dean and the concurrence of a physician or licensed examiner.

## Online Credit

### Online Credit Hours for On-Campus Undergraduate Students

Any student pursuing an on-campus (face-to-face) undergraduate degree from the University of Arkansas may take up to 35 percent, of the total credit hours required to complete the degree, of regular online (semester/summer) and self-paced online (correspondence) courses for degree credit.

- A freshman (first 30 hours) may take no more than two courses (8 hours) online.
- No student can enroll in more than 12 hours of online courses in any given semester<sup>††</sup>
- For students that have transferred academic credits from other institutions, the percentage of total credit hours obtained at the University of Arkansas through regular (semester/summer) online and self-paced online (correspondence) courses for degree credit cannot exceed 35 percent of the total remaining hours needed to complete the degree after transfer credits are accounted for.
- Exemption from this policy may apply for students in their last semester. All exemption requests must be signed by the department chair and Dean's office that oversee the degree program the student is pursuing.
- All online courses must include the course limits in the class notes presented to students when they register on UAConnect. For instance, the class notes for each class section should include:

"Students pursuing an on-campus (face-to-face) undergraduate degree at the University of Arkansas have the following credit-hour restrictions for online and self-paced courses:

- "Only 35 percent of the total credit hours required to complete the degree can be obtained through online and self-paced course
- "A freshman (fewer than 30 credit hours earned) may take no more than two online and self-paced courses (8 credit hours)
- "No student can enroll in more than 12 online and self-paced hours in any given semester
- "For students that have transferred academic credits from other institutions, the percentage of total credit hours obtained at the University of Arkansas through regular (semester/summer) online and self-paced online (correspondence) courses for degree credit cannot exceed 35 percent of the total remaining hours needed to complete the degree after transfer credits are accounted for.
- "Other restrictions may apply due to federal financial aid policies."

\* For students on financial aid, no more than 6 of these 12 credit hours can come from self-paced online (correspondence) courses. Other financial aid regulations and policies may be applicable on a case by case basis.

† International students enrolled full-time are limited to 3 credit hours of online courses per academic term due to federal policies.

## Pass Fail

### Registration for Grades of Pass-Fail for Undergraduates

Undergraduate students in some programs may register to take certain courses on a pass-fail basis. In such cases, a mark of "P" (passed) or a grade of "F" (failed) will be recorded. The grade will remain either "P" or "F" and may not be changed at a later date.

Students in the J. William Fulbright College of Arts and Sciences, the Fay Jones School of Architecture, and the Dale Bumpers College of Agricultural, Food and Life Sciences are eligible to enroll for certain courses on a pass-fail basis under the following conditions:

1. Students should contact the instructor teaching that class and request permission to enroll for a pass-fail grade. Instructors may deny this request when it is not consistent with course goals or methods (e.g., if there is significant group work or other types of collaboration by students). If the instructor approves, students should then seek approval from their adviser. (Students in Agricultural, Food and Life Sciences must also have the approval of their academic dean.)
2. That the student has attained sophomore rank or higher.
3. That the student is not on academic probation and has achieved a cumulative grade-point average of at least 2.00.
4. That such enrollment is limited to one course per semester.
5. That the total enrollment on a pass-fail basis be limited to no more than 18 hours in any student's degree program.
6. That the courses involved are general electives and are not required as part of the student's program, including major, minor, concentration, etc., or State Minimum Core requirements. Courses

being used to fulfill any specific program requirement or to complete a State Minimum Core requirement are excluded from the pass/fail grading option and must be taken as a regularly graded course.

7. Registration for pass-fail credit must be completed prior to the final date for changing registration by adding a course.

Instructors can submit only a "P" or "F" grade on the final grade roster for a student approved for the pass-fail option. In order to receive a "P" the student must earn a grade of "C-minus" or above in the course. The "P" mark will not be counted in grade point average but will increment hours earned; the "F" grade will be counted in the grade point average.

Students in the College of Education and Health Professions may enroll in courses on a pass-fail basis under the same conditions but only in courses offered by the Fulbright College of Arts and Sciences or the College of Education and Health Professions. Walton College of Business and College of Engineering students may not take courses on a pass-fail basis.

## Student Classification

Definitions of undergraduate student classification are as follows:

Classification	Course Hours Passed
Freshman	Less than 30 hours
Sophomore	30 or more hours but less than 60
Junior	60 or more hours but less than 90
Senior	90 or more hours

## Withdrawal from the University

Withdrawing from the University of Arkansas means withdrawing from all classes that have not been completed up to that time. A student who leaves the university voluntarily before the end of the fall or spring semester must withdraw from all classes on the student registration system or notify the Office of the Registrar in writing. Withdrawal may occur anytime during the semester through the last day of classes. Withdrawal deadlines for summer sessions are listed on the semester calendars located on the Office of the Registrar's website (<http://registrar.uark.edu>). Students who do not withdraw officially from a class they fail to complete will receive an "F" in that class. Students with holds on their registration should contact the Office of the Registrar for assistance in processing their official withdrawal from the university.

The deadline for a full fee adjustment for an official withdrawal is the day before the start of classes for that term. After that date a \$45.00 withdrawal fee will be charged, and a percentage of the fees will be refunded. Refer to the Treasurer's Web site for the deadlines and percentages.

## Fee and Cost Estimates

Educational expenses will vary according to a student's course of study, personal needs, and place of residence. Student progress or general course of action in pursuit of higher education at the University of Arkansas is determined during the application and acceptance process. At the conclusion of the application and acceptance process, the progress or general course of action for each student will be assigned a category, called a career.

The career categories at the University of Arkansas — in order of magnitude by the cost of tuition per credit hour — are Agricultural & Food Law, Law, Graduate, and Undergraduate. Students concurrently enrolled

in multiple careers will be assigned one primary career for all tuition billing purposes, called a billing career, based on the order of magnitude listed above. The Office of the Registrar is responsible for assigning the appropriate billing career. Students pursuing an Undergraduate career will also be classified by undergraduate program. The undergraduate programs of College of Education and Health Professions' plan of Nursing and the Fay Jones School of Architecture and Design's undergraduate program of Architecture have specific tuition rates, while all other undergraduate programs are the Undergraduate tuition rate. Similar to career, although a student may be concurrently enrolled in multiple undergraduate programs, the Office of the Registrar will assign each student only one primary undergraduate program for tuition billing purposes based on the order of magnitude by the cost of tuition per credit hour. All fees, charges, and costs quoted in this catalog are subject to change without notice. A survey tool for tuition and fee estimation is available at the Treasurer's website (<http://treasurer.uark.edu/Tuition.asp?pagestate=Estimate>).

Financial obligations to the University of Arkansas must be satisfied by the established deadlines. Payment may be made at the University Cashier's Office in the Arkansas Union, Room 214, by cash, personal check, money order or certified check. E-check (electronic check) and credit/debit payments are made online on UAConnect (<http://uaconnect.uark.edu>). If you pay with a debit or credit card, there is a convenience fee charged of 1.8 percent.

Acceptance of payment for fees does not imply academic acceptance to the university.

## Estimated Expenses

### Estimated Necessary Expenses for an Academic Year

Estimates of necessary expenses listed below are for the 2017-18 academic year for a typical undergraduate student taking 30 credit hours per academic year at the University of Arkansas:

Name	Undergraduate Resident	Undergraduate Non-Resident
Tuition*	\$7,384.00	\$22,630.00
University Fees**	\$1,678.00	\$1,678.00
Books	\$1,046	\$1,046
Personal Expenses	\$2,032	\$2,032
Transportation	\$2,072	\$2,072
Room***	\$6,884.00	\$6,884.00
Board***	\$3,820.00	\$3,820.00
TOTAL****	\$24,916	\$40,162

\* The standard undergraduate in-state tuition rate is \$246.12 per credit hour. Students enrolled in College of Business courses are charged \$319.96 per credit hour in-state tuition. Students in the School of Architecture and Design are charged \$270.66 per credit hour in-state tuition. Nursing students are charged \$290.94 per credit hour in-state tuition.

\*\* University fees per year include the following student-initiated and student-approved fees:

Student Activity fee calculated at \$2.64/credit hour  
\$79.20

Student Health fee, calculated at \$7.25/credit hour  
\$217.50

Media fee, calculated at \$0.86/credit hour  
\$25.80

Transit fee, calculated at \$2.95/credit hour  
\$88.50

Network Infrastructure and Data Systems fee at \$10.48/credit hour  
\$314.40

Facilities Fee, calculated at \$15.60/credit hour  
\$468.00

College of Arts and Sciences Fee at \$13.40/credit hour  
\$402.00

Library Fee, calculated at \$2.77/credit hour  
\$83.10

\*\*\* Weighted average expenses for living in a residence hall, double occupancy, with an unlimited meal plan. Actual room and board fees vary from \$9,582.00 to \$13,106.00 per academic year.

\*\*\*\* Budget amounts were adjusted for rounding to accommodate UAConnect budgetary rules.

When paying tuition, room and board, and associated fees, anticipated financial aid for a current semester may be deducted when it is listed as anticipated aid on the student's account. Students receiving financial aid are strongly encouraged to have sufficient personal funds available to purchase books and to meet necessary expenses for at least one month at the start of school as some aid funds may not be available for disbursement.

The latest information regarding costs and other aspects of university life may be obtained by calling or writing the Office of Admissions, 200 Hunt Hall, University of Arkansas, Fayetteville, AR 72701. In Arkansas call 1-800-377-8632; from outside of Arkansas call 479-575-5346.

## Fee Adjustments

**Academic Semesters and Summer Sessions:** Students who officially withdraw (dropping ALL classes that have not been completed up to that time) from the University of Arkansas during the regular fall or spring semesters receive a cancellation of fees (see chart below), less an Administrative Withdrawal fee of \$45. Students who officially withdraw from a summer session or who drop classes in the summer also receive a cancellation of fees (see chart below).

Adjustment Percentage	If withdrawn
100%	before the first day of the semester/session
90%	through the first 10% of days in the semester/session
80%	through the second 10% of days in the semester/session
70%	through the third 10% of days in the semester/session
60%	through the fourth 10% of days in the semester/session
50%	through the fifth 10% of days in the semester/session

40% through the sixth 10% of days in the semester/session

## Student Invoices

Students who pre-register for a semester will be invoiced approximately six weeks prior to the first day of classes. The Treasurer's Office will send out an email notification when the student invoices are available on UAConnect. Students should log into UAConnect (<http://uaconnect.uark.edu>), navigate to the Finances section of the Student Center, and click the 'Student Invoice' link located under the My Account section.

## Late Fees

Students are required to pay all charges by the posted payment deadline. Students who fail to pay all charges or who fail to execute an installment payment plan by the deadline may be assessed a late payment fee equal to the outstanding balance, not to exceed \$50.00.

Any student with an outstanding balance, to include registration-related fees and/or housing charges, by the last payment deadline will be assessed an additional late payment fee equal to the outstanding balance, not to exceed \$50.00.

The late fee will not be waived because an invoice was not received.

## Disbursement of Refunds

Disbursement of refunds due to overpayments by scholarships, loans, and/or grants will begin approximately five (5) days prior to the start of classes.

The University of Arkansas has partnered with BankMobile to deliver financial aid and other school refunds to the University of Arkansas students. Students should receive their welcome packet in a bright green envelope and via email from BankMobile prior to the beginning of classes. Refund options include: direct deposit to your current bank account or creating a checking account with BankMobile. For more information visit [www.refundselection.com](http://www.refundselection.com) (<http://www.refundselection.com>).

## Addresses

Students may create a check address, which will be used specifically for overpayment checks. This address may be created in addition to the local and permanent addresses. If a check address is not created, the default address will be the permanent address. The student may change their address in the Student Center section of UAConnect (<https://uaconnect.uark.edu>).

## Military Service

### Students Called into Active Military Service

When a student or student's spouse is activated for full-time military service and is required to cease attending the University of Arkansas without completing and receiving a grade in one or more courses, they shall receive compensation for the resulting monetary loss as provided by Fayetteville Policy 504.2. The student must cease attendance because 1) the student is activated or deployed by the military or 2) the student's spouse is activated or deployed by the military and the student or student's spouse has dependent children residing in the household.

To be eligible for the compensation, the student must provide, prior to activation or deployment for military service, an original or official copy of

the military activation or deployment orders to the university's Veterans Resource and Information Center. A student whose spouse is a service member shall provide proof of registration with the Defense Enrollment Eligibility Reporting System (DEERS) of the Department of the Defense that establishes that dependent children reside in the household of the student and the service member.

Upon leaving the University of Arkansas because of active duty or deployment, the student may choose one of three compensatory options. The student may officially withdraw and receive full adjustment and refund of tuition and non-consumable fees for the term involved; the student can remain enrolled and arrange for a mark of "Incomplete" for each class and finish the courses 12 months after deactivation; or the student may receive free tuition and fees for one semester after deactivation. For more detailed information, read Fayetteville Policy 504.2 (<http://vcfa.uark.edu/policies/fayetteville/avcf/5042.php>).

## Other General Fees

### Fee Information

See the following sections below

- General Fees
- Program and Service Fees
- College and Course Specific Fees
- Teaching Equipment and Laboratory Enhancement Fees
- Fee Adjustments
- Students Called Into Military Service
- Senior Citizen Tuition and Fees Waiver
- Other General Fees

The fees below reflect those approved for the 2017-18 school year.

### General Fees\*

Title	Description	Amount**
Facilities Fee	Provides support dedicated specifically to campus facilities needs, including major projects and deferred maintenance.	\$15.60
Media Fee	The university's student publications, specifically the Arkansas Traveler newspaper and the Razorback yearbook, are partially funded by the media fee. Students reserving a copy are provided with a Razorback yearbook.	\$0.86
Network Infrastructure And Data Systems Fee	Provides support for the development and operation of the campus network, including electronic equipment, servers with software, and cabling. The network systems serve computer labs, academic and administrative buildings, residence halls and off-campus access facilities. Data systems will enable Web-based access to the university's information systems for students, faculty, and staff. Also provides support for upgrades and replacement of the student information system.	\$10.48

Student Activity Fee	Empowers the Associated Student Government (ASG) to make funding available to over 300 Registered Student Organizations and program activities on campus to develop lasting friendships and leadership abilities and provide all students with a unique opportunity to participate in cultural social, educational, and recreational events throughout the year.	\$2.64	Autism Support Program Fee	\$5,000.00/semester
Student Health Fee	Covers wellness and health promotion educational programs and healthy student behavior programs to maintain health and safety. Covers individual consultations with a certified wellness coach, consultation with a registered dietician and consultation with an orthopedic specialist from the community. Student Health Fee also covers sexual assault counseling, prevention and advocacy services. The Student Health Fee also covers several mental health services, such as 24-hour mental health emergency care, the cost for two intake assessments with a mental health clinician per semester, most group counseling sessions, case management/referral services, psychiatric nurse consultations, refill requests and outreach/advocacy.	\$7.25	English Language Placement Test (ELPT)	\$15.00
Transit Fee	Helps fund the Razorback Bus Transit System, which services the campus and neighboring community year round.	\$2.95	CLEP Registration Fee	\$30.00
Library Fee	Provides additional support for library materials acquisition	\$2.77	Compass Fee	\$45.00
			Developmentally Disabled Program Fee	\$5,000/semester
			Graduation fees:	
			• Certificate	\$45.00
			• Baccalaureate Degree	\$75.00
			Global Campus Fee	\$30.00
			Global Campus Extension Fee	\$30.00
			• Premium Online Proctored Exam Fees	
			◦ Self-Paced Online Correspondence Courses	\$8.00
			◦ "Take It Now" Fee	\$8.75
			◦ "Take It Soon" Fee	\$5.00
			Greek Life Assessment	\$30.00
			I.D. Card	
			• Authentication Fee (exclusively online students)	\$10.00
			• First card (exclusively online students)	\$25.00
			• First card	\$22.00
			• Each replacement card	\$18.00
			IELTS Registration Fee	\$230.00
			Installment Payment Plan	\$35.00
			International Student Mandatory Health Insurance	\$1,943/year
			International student (non-immigrant) application fee	\$60.00
			International student per semester service fee (non-immigrants)	\$95.00
			• Sponsored Student Management Fee	\$350.00
			International Visiting Student Program Fee	\$300.00
			Jean Tyson Child Development Study Center	
			• Materials per semester	\$42.00
			• Infants/Toddlers/Pre-School per week	\$250.00
			Late payment:	
			• On Sept. 30 or Feb. 28 if balance has not been paid	\$50.00
			• Additional fee at Nov. 30, April 30, and July 31 for fall, spring, and summer, respectively, if payment has not been made	\$50.00
			• Mandatory international student health insurance	\$1,836/year
			Late Registration Fee – Prior to Census Day	\$25.00
			Late Registration Fee – After Census Day	\$50.00
			Late Test Registration Fee	\$20.00
			New student orientation fees:	
			• First Year Experience (New Admits Only)	\$55.00
			• Students (New Admits Only)	\$85.00
			• Parents	\$50.00
			Nursing Application Fee (B.S.N. & R.N.-B.S.N.)	\$45.00
			Nursing Application Fee (M.S.N. and D.N.P.)	\$40.00
			Parking Permit (per vehicle)	
			• Remote	\$66.96
			• Student	\$99.55
			• Resident Reserved	\$645.35
			• Parking Garage Reserved	\$879.67
			• Motorcycle	\$66.96

\* Assessed each academic semester for which the student is enrolled: fall, spring, and summer

\*\* Per Credit Hour

## Program/Service Specific Fees

Some individual services at the university assess fees related to their respective service, such as the cost of administering national tests, late payments or choosing to park on campus.

Program/Service	Specific Fees
The Arkansas Non-Resident Tuition Scholarship Award Fee	will be assessed for undergraduate non-residents (including transfer students) and international students who enter after the summer of 2013 and who are receiving the Non-Resident Tuition Award. The fee will be 50, 70, 80 or 90 percent of the difference between the in-state and out-of-state tuition per semester as long as students are receiving the award. Non-resident and international students receiving the award prior to the 2011-12 academic year are exempt as are non-resident students who are not receiving the award. To view eligibility requirements, please view the Academic Scholarship Office website at <a href="http://scholarships.uark.edu/nrta/index.php">http://scholarships.uark.edu/nrta/index.php</a>



• Scooter	\$66.96
• Scooter Reserved	\$200.87
Proctoring Fee	\$50.00
Residence Hall nonrefundable application fee	\$40.00
Residual ACT	\$65.00
Risk Management Liability Insurance (non-refundable)	\$14.50/annual
Spoken Language Placement Test (SLPT)	\$70.00
Study Abroad Service fee	
• Per program, fall and spring	\$200.00
• Per program, summer	\$100.00
Teacher Education Application Fee	\$100.00
TOEFL	\$70.00
Transcript Fee - Official Copy	\$7.50
Miller Analogies Test (MAT)	\$80.00
Undergraduate application for resident admission	\$40.00
Undergraduate application fee for non-residents	\$50.00
Withdrawal from the University fee	\$45.00

## College/Course Specific Fees

Some courses require fees that offset additional costs inherent in the course, such as lab fees, travel expenses or internship fees.

College	Course	Specific Fees
SCHOOL OF ARCHITECTURE AND DESIGN		
Interior Design Fee	IDES 1035, IDES 1045, IDES 2804, IDES 2814, IDES 3805, IDES 3815, IDES 4805, IDES 4815	\$15.00/credit hour
Interior Design Travel Fee		\$100.00
International Study Fee (Architecture and Landscape Architecture Academic Plans)		\$5,254.00*
COLLEGE OF ARTS AND SCIENCES		
Expendable ARTS Supplies (all ARTS courses)		\$42.71/credit hour
Expendable THTR Supplies and Materials (all THTR courses)		\$20.00/credit hour
Fifth-year Internship Fee (M.A.T.)	ARED 476V, MUED 451V, MUED 452V	\$100.00/semester
One-on-one instruction	All MUAP courses	\$25.00/credit hour
COLLEGE OF BUSINESS		
Computer Competency	ISYS 1120	\$58.50/semester
COLLEGE OF EDUCATION AND HEALTH PROFESSIONS		

Adult and Lifelong Learning Seminar Fee	ADLL 6173	\$25.00/credit hour
BSE Fourth-year Student Teaching Fee	CIED 4173, CATE 406X, PHED 407V	\$250.00/semester
Communications Disorders Clinical Fee	CDIS 528V, CDIS 5381, CDIS 5391, CDIS 4001	\$100/credit hour
Counseling Practicum Fee	CNED 5343, CNED 6711	\$25.00/credit hour
Counseling Internship Fee	CNED 574V, CNED 674V section 1	\$25.00/credit hour
Curriculum Instruction Education Internship Fee	CATE 406X, CATE 5016, CIED 1013, CIED 3013, CIED 3023, CIED 3033, CIED 3053, CIED 3103, CIED 3113, CIED 3123, CIED 3133, CIED 3143, CIED 3262, CIED 4113, CIED 4123, CIED 4131, CIED 4133, CIED 4143, CIED 4153, CIED 4173, CIED 4363, CIED 4423, CIED 508V, CIED 5143, CIED 528V, EDST 3023, EDST 4013, SPED 4413, SPED 4453, SPED 4473, SPED 4483, SPED 4538, SPED 4568	\$20.00/credit hour
Fifth-year Internship Fee (M.A.T.)	CIED 508V, CIED 5143, CIED 528V, CATE 5016, PHED 407V	\$250.00/semester
First Responder Special Course Fee	PBHL 3633	\$5.00/credit hour
HHPR Internship Fee	EXSC 4903, PBHL 4043, RESM 440V	\$5.00/semester
Internship for Communication Disorders	CDIS 578V	\$100.00/semester
Internship Program in Education Leadership and support for Leadership seminars	EDLE 574V, EDLE 674V	\$25.00/semester
Internship Supervision Liability and Background Check		
• Exercise Science	EXSC 4903	\$31/semester
• Public Health	PBHL 4043	\$31/semester
• Recreation and Sports Management	RESM 440V	\$31/semester

Liability Insurance – Communication Disorders	CDIS 4001	\$15/semester
Liability Insurance – Teacher Education	CIED 4173, SPED 4538, SPED 4568	\$7.50/course
Liability Insurance – Teacher Education	CATE 4013, PHED 407V, STEM 4409	\$15.00/course
Literacy Clinic		
• Methodology Fee	CIED 3113, CIED 4113, CIED 4363	\$15/semester
• Beginning Assessment	CIED 4123, CIED 4133, CIED 5173	\$20/semester
Malpractice liability insurance – Nursing, Undergraduate		\$15.00/semester
Nursing Advanced Skills Lab Fee	NURS 5102	\$130.00/semester
Nursing Clinical Fee	NURS 3321L, NURS 3424, NURS 3644, NURS 3752, NURS 4164, NURS 4252, NURS 4452, NURS 4613, NURS 4722	\$145.00/credit hour
Nursing Test Fee – First semester Junior year		\$132.50/semester
Nursing Test Fee – Second semester Junior year, First and Second semester senior year		\$132.50/semester
Off-Campus Practicum: Clinical Site	CDIS 568V	\$50.00/semester
Off-Campus Internship: Clinical Site	CDIS 558V	\$100.00/semester
Off-Campus Practicum: Public School Site	CDIS 548V	\$50.00/semester
Outdoor Adventure Leadership Fee	RESM 4023	\$40.00/credit hour
• Beginning Scuba Diving	PEAC 1831	\$155.00/credit hour
• Outdoor Education	PHED 3003	\$10.00/course
Student Teaching Supervision	PHED 407V	\$45.00/semester
Recreation and Natural Resources	RESM 1023	\$20.00/course
Rehabilitation Internship and Practicum Fee	RHAB 534V, RHAB 574V	\$75.00/semester
Special Education Lab fee, Practicum	CIED 532V	\$25.00/credit hour

COLLEGE OF  
ENGINEERING

Course fee, computer aided design (CAD) competency	MEEG 2100	\$50.00/semester
Internship Fee – Cooperative Education	GNEG 3801, GNEG 3811	\$25.00/course
Off-campus engineering graduate courses:		
• Distance technology fee		\$50.00/credit hour
Operations Management:		
• Distance technology fee		\$50.00/credit hour

\* Due initial semester of enrollment and paid in semester installments.

## Teaching Equipment and Laboratory Enhancement Fees

These fees provide and maintain state-of-the-art classroom equipment and instructional laboratory equipment. These fees vary, based upon the student's college of enrollment.

During the regular fall, spring and summer academic semesters, these fees are assessed on a per credit hour basis (see chart below).

College or School	Per Credit Hour Fee
Bumpers College Agricultural, Food and Life Sciences	\$25.20
Fay Jones School of Architecture	\$31.06
Fulbright College of Arts and Sciences	\$13.40
Walton College of Business	\$23.50
College of Education and Health Professions	\$17.04
College of Engineering	\$34.48

## Other General Fees

Checks tendered to the university are deposited immediately. The university does not accept postdated checks. Checks returned for "insufficient funds" (NSF checks) are generally presented for payment only once. Each check returned by a bank for any reason will be assessed a returned check fee. The university may, at its discretion, verify available bank funds for any checks written for payment of indebtedness before accepting a check.

The University of Arkansas reserves the right to withhold transcripts or priority registration privileges, to refuse registration, and to withhold diplomas for students or former students who have not fulfilled their financial obligations to the university. These services may also be denied students or former students who fail to comply with the rules governing the audit of student organization accounts or to return property entrusted to them.

Requests for exceptions to university's fees, charges, and refund policies must be made in writing. Instructions for submitting requests for exceptions to the various fees, charges, and refund policies of the university may be obtained as follows:

- For residence life and dining services fees, charges, and refund policies contact University Housing Assistant Director for Business, housing@uark.edu ( housing@uark.edu) or (479) 575-3951.
- For parking services fees, charges, and refund policies contact: Parking and Transit, Administrative Services Building, 155 Razorback Road, (479) 575-3507.
- For other fees, charges, and refunds, contact the Treasurer's Office, 214 Arkansas Union, Attention: Treasurer, (479) 575-5651.

Students receiving financial aid are strongly encouraged to have sufficient personal funds available to purchase books and to meet necessary expenses for at least one month at the start of school as some aid funds may not be available for disbursement.

Students are allowed to have automobiles at the university, although parking is quite limited. There is a parking permit and registration fee for each vehicle, varying in cost depending upon the parking option selected.

## Resident Status

### Student Residence Status for Tuition and Fee Purposes

Board Policy 520.8 (January 18, 1985, revised)

#### Determination of Residence Status

##### 1. Purpose

The purpose of these regulations is to enable the administrative officers of the University of Arkansas to classify students for the purpose of paying student fees, as either "in-state" or "out-of-state," so as to accord fairness and equity to the students of the university and to the public that provides support for the educational services provided by the university.

##### 2. Initial Classifications

- A student shall be admitted to the university in an "in-state" or "out-of-state" status for university fee purposes, as established under these regulations.  
Except as otherwise provided under these regulations, a student classified as "in-state" for university fee purposes at the time of admission must have established a bona fide domicile in Arkansas and must have resided continuously in this state in that bona fide domiciliary status for at least six consecutive months prior to the beginning of the term or semester for which fees are paid.
- A bona fide domicile is a home of apparent true, fixed, and permanent nature, a place of actual residing for all purposes of living that may be distinguished from a temporary sojourn in this state as a student. The person claiming domicile in Arkansas must provide evidence of permanent connection with the State of Arkansas and demonstrate the expectation of remaining in this state beyond graduation. For purposes of implementing these policies, the administration is directed to articulate standards that will be applied in making the determination of residence.
- Except as otherwise provided under these regulations, the domicile of an adult (18 years of age or older) or emancipated minor student shall be determined on the basis of his or her own domicile.
- Except as otherwise provided under these regulations, the domicile and residence of an unemancipated minor student (less than 18 years of age) or an unmarried dependent who has not attained the age of 23 is legally that of the parents or surviving parent; or such other person legally standing in the place of a

parent to the student and with whom the student in fact makes his or her home and who has been making substantial contributions to the support of the student for at least six consecutive months prior to the term or semester for which the fees are paid.

- A student who cannot satisfy the criteria for Arkansas domicile and residence will be classified as an "out-of-state" student and will pay fees and tuition accordingly. The student on a temporary visa will be classified as a foreign student and will pay non-resident tuition and fees. A student who has been granted a permanent visa and has been domiciled in Arkansas for six consecutive months following receipt of the permanent visa shall be classified as an Arkansas resident for fee purposes.
  - The responsibility for registering under a proper classification for student fee purposes is placed upon the student. It is the duty of each student at each time of registration to call any question about residency classification status to the attention of the campus classification review officer in a timely fashion in order that the question may be settled (see 4. Procedures).
  - The six-month period required in paragraph A of these regulations may be waived for persons, their spouse, and their unmarried children who have not yet attained the age of 23 (dependents are the spouse and unmarried children who are legal dependents as defined by the IRS) and who move to Arkansas with attendance at the university only a by-product of the primary purpose of establishing domicile in this state.
  - An unmarried student who has not reached the age of 23 years having one parent residing in Arkansas (for at least six consecutive months immediately prior to the beginning of the term or semester in which the fees are to be paid) may be considered an "in-state" student for fee purposes, even if that student resided outside the state with the other parent before coming to Arkansas to attend the university.
    - Marriage is recognized as emancipation for both females and males.
    - The spouse of a person continuously domiciled in Arkansas (for at least six consecutive months immediately prior to the beginning of the term or semester in which the fees are to be paid) upon request shall be classified as "in-state" for fee purposes.
- ##### 3. Reclassifications
- The initial classification of a student will not prejudice a different classification for following terms or semesters. However, a student's prior domicile is assumed to continue until he or she clearly establishes a new domicile in Arkansas (see #4 below).
  - A student previously classified as "out-of-state" may be reclassified as "in-state" for fee purposes if he or she has established a bona fide domicile in Arkansas and has resided continuously in this state in that bona fide domiciliary status for at least six consecutive months prior to his or her reclassification by the university. In order for an adult or an emancipated minor to establish a bona fide domicile in Arkansas for fee purposes, he or she must have left the parental home, must have established in this state a home of a permanent character as manifested objectively by good faith acts, and must have the expectation of remaining in this state beyond graduation. The single fact of presence in Arkansas for at least six months of attendance as a student enrolled in the University of Arkansas, or any other educational institution, neither constitutes nor necessarily precludes reclassification as one domiciled in Arkansas, but will be a factor to be considered.

#### 4. Procedures

- a. A student shall have the burden of establishing any claim that he or she is entitled to be treated as “in-state” for fee purposes. Persuasive evidence to that effect must be presented in writing and verified under oath by the student. Mere claims of local domicile and duration of stay are of little weight. A student who knowingly gives erroneous information in an attempt to evade the payment of “out-of-state” fees may be subject to dismissal from the university.
- b. All disputed classifications for student fee purposes, whether at initial enrollment or subsequent enrollments, and all disputed reclassifications will be decided initially on each campus by a classification review officer designated by each chancellor.
- c. The chancellor of each campus will designate a campus classification appeal officer to receive petitions from decisions made by the campus classification review officer. Each campus classification appeal officer may, in his or her discretion, make investigations, receive evidence, and conduct informal hearings. After considering the case, the campus classification appeal officer will render a decision and notify the affected student of the decision in writing. Any decision of the campus classification appeal officer may be appealed to the vice president for academic affairs of the University of Arkansas System, who shall recommend final disposition to the president of the university.
- d. Written notice of the appeals procedure will be provided to each student raising a question about his or her status with the campus residency classification review officer.
- e. Determination of domicile will be based on a review of all pertinent facts, evidence, and circumstances that collectively show, in an objective and clear manner, the actual domicile of the student.

NOTE: In implementing these policies, it is presumed that dependent students who are classified as non-residents based upon parental/ guardian domicile outside of Arkansas do not acquire Arkansas residency under Board of Trustees Policy 520.8 unless and until their parent(s)/ guardian(s) have established a domicile in Arkansas, or the student has left the parental home and established a domicile in Arkansas evidenced by proof that he or she has established a home of a permanent character as manifested objectively by good faith acts, resided in Arkansas in bona fide domiciliary status for at least six consecutive months prior to his or her reclassification as an Arkansas resident, and demonstrates the expectation of remaining in this state beyond graduation.

### Reclassification Deadlines

Students who have established a bona fide domicile in Arkansas following initial classification as a non-resident must request reclassification if they want their status recognized for fee purposes. Applications and appropriate documentation must be received by the Office of the Registrar no later than the fifth class day (second class day of a summer session) of the term for which in-state fee assessment is requested. Applications received after the deadline will be considered for the next term. All fees are to be paid by published due dates. Students who receive a favorable decision after payment will be provided a refund of out-of-state fees paid. Please direct questions about residence classification review procedures to the Office of the Registrar, 146 Silas H. Hunt Hall.

### Resident Status of Native Americans

(Board Policy 520.1, “Waiver of Non-Resident Tuition for Native Americans.”)

Native American people in other states belonging to tribes that formerly lived in Arkansas before relocation, and whose names are on the rolls in tribal headquarters, shall be classified as in-state students of Arkansas for tuition and fee purposes, on all campuses of the University of Arkansas. Tribes so identified include the Caddo, Cherokee, Chickasaw, Choctaw, Creek, Delaware, Kickapoo, Osage, Peoria, Quapaw, Shawnee, and Tunica.

### Resident Status of Members of the Armed Forces and Their Dependents

(Board Policy 520.7, “Fees for Members of Armed Forces and Dependents.”)

For the purpose of tuition and fees applicable for all programs of study, including distance learning programs, effective July 1, 2017, all campuses of the University of Arkansas System shall classify a student as in-state or resident, if the student meets any of the following criteria regardless of his or her residence:

1. A veteran who was honorably discharged or released from a period of not less than ninety (90) days of active duty in the United States Armed Forces within three (3) years before the date of enrollment in a program of study;
2. A dependent<sup>1</sup> or spouse of a veteran under Paragraph 1.
3. A member of the armed forces.
4. A spouse of a member of the armed forces.
5. A Reserve Officers’ Training Corps cadet who has an executed armed forces service contract.
6. A dependent of a member of the active duty armed forces, when the member of the armed forces:
  - a. is stationed in the State of Arkansas pursuant to permanent change of station (PCS) military orders;
  - b. is continuously domiciled in Arkansas for at least six consecutive months before entering active military service and who maintains Arkansas as the permanent home of record while on active military duty, or
  - c. demonstrates a change of *bona fide* domicile from another state to Arkansas at least 12 consecutive months prior to separation, discharge, or retirement from active military duty. This provision is forfeited if the military person does not return to Arkansas within 36 months after separation, discharge, or retirement from active duty.
7. A veteran using educational assistance under either Chapter 30 (Montgomery G.I. Bill—Active Duty Program) or Chapter 33 (Post-9/11 G.I. Bill), of Title 38 of the United States Code, who lives in the State of Arkansas while attending a school located in the State of Arkansas (regardless of his/her formal state of residence) and enrolls in the school within three years of discharge or release from a period of active duty service of 90 days or more.
8. Anyone using transferred Post-9/11 G.I. Bill benefits (38 U.S.C. §3319) who lives in the State of Arkansas while attending a school located in the State of Arkansas (regardless of his/her formal state of residence) and enrolls in the school within three years of the transferor’s discharge or release from a period of active duty service of 90 days or more.
9. Anyone described in paragraphs 7 and 8 while he or she remains continuously enrolled (other than during regularly scheduled breaks between courses, semesters, or terms) at the same school. The person so described must have enrolled in the school prior to the expiration of the three year period following discharge or release

as described in paragraphs 7 and 8 and must be using educational benefits under either chapter 30 or chapter 33, of title 38 of the United States Code.

10. Anyone using benefits under the Marine Gunnery Sergeant John David Fry Scholarship (38 U.S.C. §§3311(b)(9)) who lives in the State of Arkansas while attending a school located in the State of Arkansas (regardless of his/her formal state of residence).
11. Anyone using transferred Post 9/11 G.I. Bill benefits (38 U.S.C. § 3319) who lives in Arkansas while attending a school located in Arkansas (regardless of his/her formal state of residence) and the transferor is a member of the uniformed service who is serving on active duty..
12. A member of the armed forces or "covered individual" as identified in Section 702 of the Veterans Access, Choice and Accountability Act of 2014.

This system-wide policy and procedure has been amended as necessary for compliance with the requirements of 38 U.S.C. 3679, as amended, and Ark. Code Ann. § 6-60-205.

- <sup>1</sup> For the purpose of this policy, dependents are unmarried children who are legal dependents of the military person as defined by the IRS.

## Resident Status of Students from Texarkana, Texas, and Bowie County, Texas

(Board Policy 520.10)

In accordance with the reciprocity agreement described in H.C.R. 32, signed by the governor of Arkansas on February 12, 1965, Board Policy 520.10 states, "Residents of Texarkana, Texas, and Bowie County, Texas, will be classified as in-state students for university fee purposes at the University of Arkansas."

## Room and Board

### Campus Housing (Rates are subject to change)

Single freshmen under 21 years of age are required to live in University of Arkansas residence halls, fraternity or sorority houses, or with their parents, unless permission to live off-campus has been obtained through University Housing. Permission to reside off-campus is granted on a semester basis and must be obtained prior to enrolling or prior to the semester in which off-campus residency is desired.

Costs of room and board in university residence halls during the 2017-18 academic year range from \$9,582.00 to \$13,106.00 for double occupancy rooms and with an unlimited meal plan. Single rooms are additional and are available on a first-come, first-serve basis.

Housing for married students, students with family status, nontraditional, graduate, and law students is limited and requires early application.

Summer rates for a room in a university residence hall during summer sessions are \$34.30 per day for single-occupancy rooms. Charges start on the requested move-in day and run through the date of check-out.

### Dining

Specific questions concerning on-campus meal plans may be directed to University Housing 479-575-3951 or visit the Dining on Campus website (<http://www.dineoncampus.com/razorbacks>).

## Fraternities and Sororities

Specific questions concerning sorority and fraternity living may be directed to the Office of Greek Affairs 479-575-5001.

## Off-Campus Housing

Students eligible to live off-campus may contact local real estate offices for rental information or check the Off-Campus Housing website (<http://offcampushousing.uark.edu>).

## Senior Citizens

### Waiver of Tuition and Fees for Senior Citizens

Arkansas residents who are 60 years of age or older and show proper proof of age may choose to have tuition and fees waived for on-campus courses under the senior citizen waiver of fees. Admission and enrollment under these conditions is open only on a "space available" basis in existing classes, and students choosing to use this waiver may not register until just prior to the beginning of the term.

## Tuition Fees

Fees below reflect those approved for the 2017-18 academic year.

Students classified as "in-state" for fee payment purposes are assessed tuition. Students classified as "out-of-state" for fee payment purposes are assessed additional non-resident tuition.

Official policies of the University of Arkansas Board of Trustees provide the basis for classifying students as either "in-state" or "out-of-state" for purposes of paying student fees. Board policies relating to residency status for fee payment purposes are included at the end of this chapter of the catalog. Out-of-state students who question their residency classification are encouraged to contact the Registrar's Office, 146 Silas H. Hunt Hall, for more information about residency classification review procedures.

The Arkansas Non-Resident Tuition Scholarship Award Fee will be assessed for undergraduate non-residents (including transfer students) and international students who are receiving the Non-Resident Tuition Award. The fee will be 10, 20, 30 or 50 percent of the difference between the in-state and out-of-state tuition per semester as long as students are receiving the award. To view eligibility requirements, please view the Academic Scholarship Office website (<http://scholarships.uark.edu/nrta>).

## Academic Year

Undergraduate students are assessed tuition of \$246.12 per credit hour. Students with out-of-state residency status are assessed tuition of \$754.31 per credit hour.

Undergraduate students enrolled in developmental instruction courses are charged tuition of \$131.27 per credit hour in-state and \$632.66 per credit hour for out-of-state students.

Undergraduate students enrolled in the Walton College of Business courses are charged tuition of \$319.96 per credit hour in-state and \$1,010.78 per credit hour for out-of-state students.

Undergraduate students enrolled in the Fay Jones School of Architecture and Design are charged tuition of \$270.66 per credit hour in-state and \$825.59 per credit hour for out-of-state students.

Undergraduate nursing students are assessed tuition of \$290.94 per credit hour. Students with out-of-state residency status are assessed tuition of \$891.67 per credit hour.

Undergraduate students enrolled in College of Engineering courses are charged tuition of \$283.04 per credit hour in-state and \$867.46 per credit hour for out-of-state students.

Undergraduate students enrolled in Global Campus self-paced online correspondence courses are charged tuition of \$130.00 per credit hour.

## Academic Regulations

### Academic Integrity

As a core part of its mission, the University of Arkansas provides students with the opportunity to further their educational goals through programs of study and research in an environment that promotes freedom of inquiry and academic responsibility. Accomplishing this mission is only possible when intellectual honesty and individual integrity prevail. Each University of Arkansas student is required to be familiar with and abide by the university's Academic Integrity Policy (<http://honesty.uark.edu/policy>) at [honesty.uark.edu](http://honesty.uark.edu). Students with questions about how these policies apply to a particular course or assignment should immediately contact their instructor.

### Attendance Policy for Students

**Attendance and Engagement:** Education at the university level requires students' active involvement in the learning process. Therefore, students have the responsibility to attend classes and to actively engage in all learning assignments or opportunities provided in their classes. Students should treat class attendance as mandatory. Instructors have the responsibility to provide a written policy on student attendance that is tied to course objectives and included in a course syllabus.

**Excusable Absences:** There may be times, however, when illness, family crises, or university sponsored activities require a student to be absent from class. In these situations, the student is responsible for making timely arrangements with the instructor to make up work missed. The make-up work should be completed in a timeframe that has been arranged with the instructor. Such arrangements should be made in writing and prior to the absence, when possible.

Examples of absences that should be considered excusable include those resulting from: 1) student illness, 2) serious illness or death of a member of the student's immediate family or other family crisis, 3) University sponsored activities for which the student's attendance is required by virtue of scholarship or leadership/participation responsibilities, 4) religious observances (see Students' Religious Observances policy below), 5) jury duty or subpoena for a court appearance, and 6) military duty. The instructor has the right to require that the student provide appropriate documentation for any absence for which the student wishes to be excused.

### Religious Observances

When students seek to be excused from class for religious reasons, they are expected to provide their instructors with a schedule of religious holidays that they intend to observe, in writing, before the completion of the first week of classes. The Semester Calendar (<http://registrar.uark.edu/academic-dates/academic-semester-calendar>) on the Office of the Registrar's website will inform students of the university calendar of events, including class meeting and final examination dates, so that before they enroll they can take into account their calendar of

religious observances. Scheduling should be done with recognition of religious observances where possible. However, faculty members are expected to allow students to make up work scheduled for dates during which they observe the holidays of their religion.

### Final Examination Policy

Each faculty member is required to give final examinations at times specified in the final examination schedule. All final examinations must be given at times scheduled within the official final examination period designated for the course. A final examination represents the final assessment of each student's knowledge of the subject material within a course. Whenever circumstances make necessary a deviation from the announced schedule, clearance for such deviation must be obtained from the appropriate dean and the Provost and Vice Chancellor for Academic Affairs.

During finals week, students are required to sit for no more than two final exams in a single calendar day period. Students with three or more finals in a single calendar day period have the right to an alternative exam date (s) for each exam exceeding two. They must submit a formal request for an alternative date in writing, along with an official copy of their class schedule for verification purposes, to the professors of those classes involved to see if one will voluntarily move the exam. If voluntary accommodation is not achieved, instructors of classes with lower enrollments will have to accommodate before classes with higher enrollments.

Requests must be submitted on or before the last day to drop a full semester class or classes with a mark of "W". Professors will provide the student with an alternative exam date and time no later than one week after the last day to drop a full semester class or classes with a mark of "W". All rescheduled final exams are to take place during the university designated final exam dates and times. If a student has an objection to the alternative exam date/time, she or he may appeal to the instructor's department chair.

It is the policy of the University to minimize student participation in extracurricular activities during the final examination period. No meetings, social activities, athletic events, or other extracurricular activities that require student participation will be scheduled on Dead Day or during the final examination period. Any exceptions to this policy must receive prior approval from the Provost and Vice Chancellor for Academic Affairs.

### Grades And Marks

Final grades for courses are "A," "B," "C," "D," and "F" (except for courses taken in the Fay Jones School of Architecture and the Dale Bumpers College of Agricultural, Food and Life Sciences).

Grade/Mark	Given For	Grade Points
A	Outstanding achievement, given to a relatively small number of excellent scholars	4
B	Good achievement	3
C	Average achievement	2
D	Poor but passing work	1
F	Failure, unsatisfactory work	0
XF	Failure, academic dishonesty	0

I	Incomplete course requirements	N/A
AU	Audit, officially registered	N/A
CR	Credit without grade points	N/A
R	Registered, no credit	N/A
S	Satisfactory work in courses w/o credit	N/A
W	Withdrawal	N/A

No credit is earned for courses in which a grade of "F" is recorded. A final grade of "F" shall be assigned to a student who is failing on the basis of work completed and who has not completed all requirements. The instructor may change an "F" so assigned to a passing grade if warranted by satisfactory completion of all requirements. Students who fail to present an acceptable reason for not having completed all course requirements including the final examination will receive the grade they would have received had they failed such requirements. In the case of an "XF" grade given for reasons of academic dishonesty, upon graduation or completion of the period of suspension, the student may request that the "X" be removed from the transcript by submitting a written request to the Provost/Vice Chancellor for Academic Affairs.

A mark of "I" may be assigned when a legitimate good cause has prevented the student from completing all course requirements, and the work completed is of passing quality. It is the discretion of the instructor that determines what qualifies as a legitimate good cause. It is recommended that the instructor, prior to the assignment of an "I" mark, document the legitimate good cause and conditions for completing course requirements. An "I" so assigned may be changed to a grade provided all course requirements have been completed within 12 weeks from the beginning of the next semester (excluding summer semesters) of the student's enrollment after receiving the "I." If the instructor does not report the grade within the 12-week period, the "I" shall be changed to an "F." When a mark of "I" is changed to a final grade, the grade points and academic standing are appropriately adjusted on the student's official academic records.

A mark of "AU" (Audit) is given to a student who officially registers in a course for audit purposes (see Registration for Audit (p. 58)).

A mark of "CR" (Credit) is given for a course (for example, practice teaching, certain seminars, certain honors colloquia, and courses where credit is earned by examination) for which the university allows credit toward a degree, but for which no grade points are earned.

A mark of "R" (Registered) is given to a student who is registered in a course for no credit or grade points. This is typically used at the undergraduate level for Study Abroad or other situations where a placeholder mark is needed.

A mark of "S" (Satisfactory) is assigned in courses such as special problems and research when a final grade is inappropriate. The mark "S" is not assigned to courses or work for which credit is given (and thus no grade points are earned for such work). If credit is awarded upon the completion of such work, a grade or mark may be assigned at that time, and, if a grade is assigned, grade points will be earned.

A mark of "W" (Withdrawal) will be given for courses from which students withdraw after the first 10 days of the semester and before the drop deadline of the semester.

"I," "AU," "CR," "R," "S," and "W" marks will not be counted in the grade-point average. Grades of plus and minus are assigned grade-point values in the Bumpers College of Agricultural, Food and Life Sciences (p. 89) and the Fay Jones School of Architecture (p. 160). The grade-point average is computed by dividing the total number of grade points by the total number of credit hours attempted in courses for which grades (rather than marks) are given. Students who utilized grade renewal or grade forgiveness in retaking courses (prior to fall Semester 1986 and after fall 1996) have only the last grade used in computing grade-point averages.

## Undergraduate Grade Forgiveness Policy

Under the Grade Forgiveness Policy, a student may improve the undergraduate cumulative GPA by repeating a maximum of two courses (up to nine hours) in which a grade of "D" or "F" was received and requesting that the repeat grade be the only one that is counted in the calculation. Only two such requests are available to any student in his or her undergraduate career. The repeated grade must be in the same course taken at the University of Arkansas, Fayetteville. Only a course in which a grade of "D" or "F" was earned may be repeated under the Forgiveness Policy. The student must file a written petition to use grade forgiveness indicating which course(s) he/she chooses to grade renew: the petition must be completed and approved prior to graduation. Both attempts at the course will remain on the transcript, but only the second will be used to calculate both credit and GPA. The first attempt and the grade earned will be recorded on the transcript with the symbol "R" to denote that it has been repeated. Students considering grade forgiveness should be aware that many graduate schools, professional schools, employers or other institutions, in considering admission or employment, recompute the GPA and include all courses attempted even though a course was repeated. This means that if the cumulative GPA has been raised because of grade renewal or forgiveness, the recomputed GPA will be lower. The Grade Forgiveness Policy begins with the Fall 1996 semester. This policy may be used to forgive the grade of courses taken prior to that semester as long as the retaken course was in or after the Fall 1996 semester.

## Academic Bankruptcy

Students returning to the University of Arkansas after an absence of five or more years may be eligible to declare academic bankruptcy if they meet the following criteria:

1. Must have been enrolled previously at the University of Arkansas, Fayetteville, as an undergraduate student and be returning as an undergraduate student.
2. Must not have been enrolled at the university during the previous five years.
3. Students who have attended another institution since their last attendance at the university must meet requirements for transfer students (2.00 GPA on all coursework attempted more than five years after last enrollment at the University of Arkansas, Fayetteville) to be eligible for readmission.
4. Must submit an application for readmission and official transcripts of all college work attempted since last attendance at the University of Arkansas by the application deadlines and submit a Declaration of Academic Bankruptcy form (<http://registrar.uark.edu/1621.php>) to the Office of the Registrar. The following are the conditions of academic bankruptcy:
  - a. Students will forfeit all credit hours previously awarded by the University of Arkansas, Fayetteville. This includes course work completed at the university (regardless of grades earned),

courses accepted in transfer, credit by examination, and any self-paced (correspondence) course work awarded.

- b. A new calculation of GPA and credit hours will begin when the student returns to the University of Arkansas.
- c. The transcript will reflect the student's complete record (including all previous college work) with an added notation of "Academic Bankruptcy Declared."
- d. Courses taken at another institution within five years of the last University of Arkansas enrollment will not be accepted for transfer. Coursework completed more than five years after last attending the University of Arkansas may be accepted in transfer, subject to university transfer credit policies. For purposes of this policy, University of Arkansas self-paced (correspondence) coursework will be treated in the same manner as transfer work.
- e. For the university to provide appropriate advising and (as required by Arkansas Act 1052) appropriate assessment, a student may be required to submit ACT, SAT, or ACT COMPASS test scores prior to registration for classes if, as a result of academic bankruptcy, that student is returning to the university as a freshman with fewer than 24 transfer hours.

## Academic Probation, Suspension and Dismissal

A student's academic status at the university is determined at the end of each regular term of enrollment (fall, spring, or summer) on the basis of the student's cumulative and/or term grade-point average (GPA) and number of hours attempted. The student's academic status governs his or her re-enrollment status and determines any conditions associated with re-enrollment or denial of enrollment for a subsequent term. Normally, students are notified of their status individually by the university shortly after the end of each term. However, this policy statement is the formal notification to all students of the conditions that determine academic status and the consequences for each term, regardless of individual notification.

**Good Status:** Upon initial admission and during a student's first term of enrollment, except for students conditionally admitted on academic probation, the student is in good status. A student remains in, or returns to, good academic status at the end of any regular term (spring, summer, fall) when the cumulative GPA is at or above the required minimum of 2.0.

**Academic Probation:** When a student's cumulative grade-point average at the end of any fall, spring, or summer term is less than a 2.00 with more than three cumulative hours attempted, the student will be placed on academic probation.

**First-Year Freshmen:** First-year freshmen who have less than a 2.00 cumulative grade-point average at the end of their first semester of enrollment are considered at risk. During the first six weeks of their second semester, these at risk students must, at a minimum, consult with an academic adviser to develop a plan to get off of probation before being eligible to register for their third semester courses.

**Removal from Academic Probation:** When a student's cumulative GPA at the end of any fall, spring, or summer term is a 2.00 or above, he or she will be removed from academic probation.

**Continuing on Academic Probation:** The semester grade point average a student on academic probation must earn to continue on academic

probation and avoid academic suspension depends on the cumulative grade hours attempted as outlined in the academic probation chart below.

### Academic Probation Chart

Cumulative Hours Attempted (excludes grades of W)	Placed on Probation If Cumulative GPA Is:	Continued on Probation If Semester GPA Is:	Removed From Probation If Cumulative GPA Is:
4-30 hours attempted	Less than 2.0	Greater than or equal to 1.8	Greater than or equal to 2.0
Greater than 30 hours attempted	Less than 2.0	Greater than or equal to 2.0	Greater than or equal to 2.0

**Academic Suspension:** A student on academic probation who does not earn the minimum required term GPA will be academically suspended. No student may be academically suspended who has not spent the prior term of enrollment on academic probation. A student on academic suspension will be on academic leave from the university for one major semester (spring or fall) and all contiguous summer and intersessions from the close of the term which resulted in the academic suspension. Thus, a student academically suspended at the end of the spring semester would not be eligible to enroll until the next spring semester; a student academically suspended at the end of the summer semester would not be eligible to enroll until the following spring term; and a student academically suspended at the end of a fall semester would not be eligible to enroll until the next fall semester. The first enrollment when returning from academic suspension may not be in an intersession.

Students who sit out for one major semester after the term of the academic suspension may apply for readmission to the university.

A student who does not earn credit from another institution may be readmitted on academic probation following academic suspension. A student who earns credit from another institution(s) during or subsequent to the academic suspension must apply to the university for admission as a transfer student and, if readmitted, will be on academic probation following academic suspension. A student readmitted on academic probation after academic suspension must make a semester grade-point average of at least 2.00 for each semester, (fall, spring, or summer) until he or she is removed from probation. Failure to do so will result in academic dismissal.

**Academic Dismissal:** A student who returns to the university after an academic suspension is continued on academic probation following suspension and must make a semester grade-point average of at least 2.00 for each fall, spring, or summer term until he or she is removed from academic probation. Failure to do so will result in academic dismissal.

**Returning after Academic Dismissal:** Students who sit out for at least one full academic year *and* submit at least 12 hours of general education core classes or upper-level classes with at least a 3.0 grade-point average in this coursework will be eligible for automatic readmission from their first academic dismissal. This can be done by taking self-paced courses through the Global Campus (<http://globalcampus.uark.edu>)<sup>1</sup> at the University of Arkansas or by courses taken at another regionally accredited institution of higher education. Students meeting these requirements must complete a petition to the Academic Standards Committee (<http://registrar.uark.edu/student-records/academic-standards-committee-petition.php>) and submit official transcripts for all work attempted since being academically dismissed. The petition is to be



submitted to the Office of the Registrar (<http://registrar.uark.edu>) before applying (<http://admissions.uark.edu>) for readmission.

Students who do not meet these conditions, and students who have been academically dismissed more than once, must petition to the Academic Standards Committee (<http://registrar.uark.edu/student-records/academic-standards-committee-petition.php>) to be considered for readmission. It is strongly recommended that students meet with an academic adviser to develop a plan for returning from academic dismissal. Students approved for readmission from academic dismissal must reapply (<http://admission.uark.edu>) for admission.

A student who reenters the university by favorable action of the Academic Standards Committee after an academic dismissal is continued on academic probation after academic dismissal and must make a semester grade-point average of at least 2.00 for each semester until the cumulative GPA reaches 2.00 and he or she is removed from academic probation. Failure to do so will result in academic dismissal.

Individual colleges or programs have the discretion to set academic admission and continuation standards for specific programs that are higher than university standards.

<sup>1</sup> Students who are not in good academic standing at the University of Arkansas may be enrolled in no more than six hours of self-paced Global Campus courses at any one time.

## Waiver of Academic Policies

The Academic Standards Committee (<http://registrar.uark.edu/student-records/academic-standards-committee-petition.php>), composed of faculty and students, serves as a referral body for matters of academic probation, suspension, dismissal, and other rules and regulations related to academic progress and graduation. Petitions for waiver of academic rules and information on the petitioning process may be obtained on the Office of the Registrar's website (<http://registrar.uark.edu/418.php>). Students should note petitioning deadlines.

## Advanced-Standing Programs

### Advanced-Standing Programs

### Credit by Examination

There are two ways a student enrolled at the University of Arkansas, Fayetteville, may establish undergraduate credit by examination in courses offered by the university: either through the University of Arkansas Credit by Examination Program (see the next section), or through approved national testing programs, such as the College Level Examination Program (CLEP), the Advanced Placement Program (AP), or the International Baccalaureate Program (IB).

Credit established by examination must be evaluated in terms of the specific program the student wishes to pursue. The decision regarding the appropriate application of such credit to a degree program will be made in each college or school. Credit established by examination will be applied to a degree program in the same manner as credit established in any other way. If credit is earned by examination, the mark of CR will be entered in the student's record. Grades are not assigned.

In certain instances, however, instead of actually receiving credit in semester hours, a student may receive advanced standing and be authorized to enroll for advanced courses in the subject matter area.

Credit by examination may not be used to satisfy minimum residency requirements as established by each college or school. Credit by examination is recorded only for students currently enrolled at the University of Arkansas, Fayetteville.

## University of Arkansas Program

The following conditions apply to the departmental programs for credit by examination:

1. The student must apply for such examination using forms available in the academic dean or department office. Permission to take the examination must be obtained from the faculty of the department offering the course. The faculty of each department is responsible for designating the courses in that department that may be challenged by examination.
2. The appropriate department or college offering the course will designate and administer the examination.
3. A passing grade on the examination must be "B" or above. A second trial for credit by examination in that course will not be permitted.
4. A \$25 credit by examination fee will be assessed per course.

## National Testing Programs

When credit by a national examination is granted, the student's academic record will list the score used as a basis for credit as well as the type of examination used to establish credit, such as CLEP subject examination or general examination, AP examination or IB examination.

Credit is awarded on the basis of official score reports, which must be sent by the national testing service directly to the Office of the Registrar, 141 Uptown East, University of Arkansas, Fayetteville, AR 72701.

Minimum score requirements as established by the University of Arkansas, Fayetteville, must be met to receive credit.

## College Level Examination Program (CLEP)

The University of Arkansas is a CLEP testing center and is authorized to administer CLEP examinations both on a national basis and on an institutional basis. However, CLEP examinations may be taken at scheduled times at any national test center, and the results sent to the University of Arkansas. The test center code number and score recipient code number for the University of Arkansas is 6866. For information or to make application, write to the Office of Testing Services, 1435 W. Walton Street, 1 University of Arkansas, Fayetteville, AR 72701, or telephone 479-575-3948.

Approval has been granted by the appropriate governing body, upon recommendation of the academic department, to award credit in the following courses by the use of CLEP examinations. Minimum scores for the paper-based version and the new computer-based version were established by the departments of the subject areas concerned.

Please note that minimum scores for credit for computer-based CLEP exams may differ from paper-based CLEP examinations.

CLEP Examination	UA Course	Paper-based text (pre July 2001)	Computer-based test (Effective July 2001)	Maximum Credit Allowed
General Examinations				
College Mathematics	MATH 0003	520	52	3

College Composition	ENGL 1013	490	55	3
College Composition	ENGL 1013 & ENGL 1023	540	60	6
Approved Subject Examinations				
American Government	PLSC 2003	47	50	3
Biology	BIOL 1543/ BIOL 1541L	49	50	4
Calculus	MATH 2554	55	65	4
College Algebra	MATH 1203	50	54	3
Chemistry	CHEM 1103/ CHEM 1101L & CHEM 1123/ CHEM 1121L	50	55	8
History of United States I	HIST 2003	50	50	3
History of United States II	HIST 2013	50	50	3
Human Growth & Development	HESC 1403		63	3
Introduction to Educational Psychology	PSYC 4033		55	3
Introductory Psychology	PSYC 2003	47	55	3
Introductory Sociology	SOCI 2013	59	59	3
Principles of Macroeconomics	ECON 2013	48	54	3
Principles of Microeconomic	ECON 2023	48	54	3
Principles of Marketing	MKTG 3433	48	50	3
Western Civilization I	HIST 1113	50	60	3
Western Civilization II	HIST 1123	50	60	3

## Advanced Placement Program (AP)

The Advanced Placement (AP) Program of the College Entrance Examination Board gives students the opportunity to pursue college-level studies while still in high school and, with an appropriate score on an AP exam, to receive advanced placement and/or credit upon entering the University. The AP examinations are offered annually by high schools that participate in this program. The appropriate UA governing body, upon recommendation of the academic department, has authorized credit and/or placement for students who present qualifying scores in the AP courses listed below.

### Symbols for placement and credit:

- P = placement;
- Pq = qualified placement (student may be placed in an advanced course, with credit awarded for prerequisite courses upon satisfactory completion, subject to departmental review.);
- C = credit;
- Cq = qualified credit (placement and credit subject to departmental review);
- E = Exempt.

AP Examination	UA Course	Minimum Score
Art History	ARHS 1003	3C
Art History	ARHS 1003H or ARHS 2913	4C
Art History	ARHS 1003H or ARHS 2913 & ARHS 2923	5C
Biology	BIOL 1543H/BIOL 1541M	3P
Biology	BIOL 1543/BIOL 1541L	4C
Biology	BIOL 1543H/BIOL 1541M	5C
Calculus AB	MATH 2554	3C, 4C
Calculus AB	MATH 2554H	5C
Calculus BC	MATH 2554 & MATH 2564	3C, 4C
Calculus BC	MATH 2554H & MATH 2564H	5C
AB Subscore	MATH 2554	3C
Chemistry	CHEM 1103/CHEM 1101L & CHEM 1123/CHEM 1121L	4C
Chemistry	CHEM 1103/CHEM 1101L & CHEM 1123H/CHEM 1121M	5C
Computer Science A	CSCE 2004	3 or 4 Cq*, 5C
Language and Composition	ENGL 1013	3E
Language and Composition	ENGL 1013	4C
Language and Composition	ENGL 1013H	5C
Literature and Composition	ENGL 1213	4C
Literature and Composition	ENGL 1213H	5C
Environmental Sciences	ENSC 1003	3C
European History	HIST 1123	4C
French Language	FREN 1013 & FREN 2003	3C
French Language	FREN 1013, FREN 2003 & FREN 2013	4C
French Language	FREN 1013, FREN 2003, FREN 2013, & FREN 3003	5C
German Language	GERM 1013 & GERM 2003	3C
German Language	GERM 1013, GERM 2003 & GERM 2013	4C
German Language	GERM 1013, GERM 2003, GERM 2013, & GERM 3003	5C
Government and Politics: Comparative	PLSC 2013	3C
Government and Politics: U.S.	PLSC 2003	3C, 4C
Government and Politics: U.S.	PLSC 2003H	5C
Human Geography	GEOS 1123	4C

Latin: Virgil	LATN 1013	2 Pq, 3C**
Latin: Virgil	LATN 2003	4C**
Latin: Virgil	LATN 2013	5C**
Macroeconomics	ECON 2013	4C, 5C
Microeconomics	ECON 2023	4C, 5C
Music Theory	MUTH 1603 & MUTH 1621	2P, 3Cq, 4C
Music Theory	MUTH 1003	2Cq, 3C
Music Theory	MUTH 1631 & MUTH 2603	4Cq, 5C
Physics 1: Algebra-Based	PHYS 2013/PHYS 2011L	3C
Physics 1: Algebra-Based with Cal AB or BC score of 3	PHYS 2054	3 Cq**, 4C
Physics 1: Algebra-Based with Cal AB or BC score of 3	PHYS 2054H	5C
Physics 2: Algebra-Based	PHYS 2033/PHYS 2031L	3C
Physics B	PHYS 2013/PHYS 2011L & PHYS 2033/PHYS 2031L	3C
Physics B with Calculus AB or BC score of 3	PHYS 2054 & PHYS 2033/PHYS 2031L	3 Cq**, 4C**
Physics B with Calculus AB or BC score of 3	PHYS 2054H & PHYS 2033/PHYS 2031L	5C**
Physics C Mechanics	PHYS 2054	3 Cq (*, **), 4C
Physics C Mechanics	PHYS 2054H	5C
Physics C, E & M	PHYS 2074	3 Cq*, 4C
Physics C, E & M	PHYS 2074H	5C
Psychology	PSYC 2003	3C
Spanish Language	SPAN 1013 & SPAN 2003	3C
Spanish Language	SPAN 1013, SPAN 2003 & SPAN 2013	4C
Spanish Language	SPAN 1013, SPAN 2003, SPAN 2013, & SPAN 3003	5C
Spanish Literature	SPAN 3103	5C
Statistics	STAT 2303	3C***
Statistics	STAT 2023	4C
Studio Art: Drawing	ARTS 1013	5C
Studio Art: 2D Design	ARTS 1313	5C
Studio Art: 3D Design	ARTS 1323	5C
U.S. History	HIST 2003 or HIST 2013	4C
U.S. History	HIST 2003 & HIST 2013	5C
World History	HIST 1113 or HIST 1123	4C
World History	HIST 1113 & HIST 1123	5C

\* Students must pass a departmental test to receive credit

\*\* To receive credit for courses preceding the course for which AP credit has been granted, students must enroll in and complete with a grade of "C" or higher, that course which follows in sequence the course for which AP credit was granted.

\*\*\* At most, 3 hours credit allowed for AP Statistics.

## International Baccalaureate

The International Baccalaureate (IB) program is a comprehensive and rigorous two-year high school curriculum offered in the United States and in 72 countries around the world. The IB program provides students with a balanced education, facilitates geographic and cultural mobility, and promotes international understanding through a shared academic

experience. The IB program gives students the opportunity to pursue college-level studies while in upper secondary school and to receive credit for final examinations upon entering the University.

The IB examinations are offered annually, usually in May, by high schools participating in this program. Students seeking credit for examinations must request that a final, official IB transcript of certificate or diploma results be sent by mail to the Office of the Registrar, 146 Silas H. Hunt Hall, University of Arkansas, Fayetteville AR 72701. These materials may be requested from International Baccalaureate North America, 200 Madison Avenue, Suite 2007, New York, NY 10016, telephone: 212-696-4464.

Approval has been granted by appropriate academic departments to award credit in the following courses. The minimum scores were established by the departments of the subject areas concerned.

International Course	UA Course	Score (Higher Level)
Anthropology	ANTH 1023	4-7 HL
Biology	BIOL 1543/BIOL 1541L	4,5 HL
Biology	BIOL 1543H/BIOL 1541M	6,7 HL
Chemistry	CHEM 1103/CHEM 1101L & CHEM 1123/ CHEM 1121L	5-7 HL
Computer Science	CSCE 2014 (Pending Departmental Examination)	4-7 HL
Economics	ECON 2013 & ECON 2023	5-7HL
English	ENGL 1013	5-7 HL
English	ENGL 1023	6,7 HL
Geography	GEOS 1123	5-7 HL
History (U.S.)	HIST 2003 or HIST 2013	4 HL
History (U.S.)	HIST 2003 & HIST 2013	5-7 HL
History (World)	HIST 1113 & HIST 1123	4,5 HL
History (World)	HIST 1113H & HIST 1123H	6,7 HL
Mathematics	Up to 8 hours possible (To be determined by the Math Department)	5-7 HL
Philosophy	PHIL 2003	4,5 HL
Philosophy	PHIL 2003H	6,7 HL
Physics	PHYS 2013/PHYS 2011L & PHYS 2033/PHYS 2031L	4,5 HL
Physics	PHYS 2054 & PHYS 2033/PHYS 2031L	6,7 HL
Psychology	PSYC 2003	4-7 HL

## Eight-Semester Degree Completion Policy

The University of Arkansas is committed to helping all of its students identify and achieve their educational goals. The many University of Arkansas programs of study and activities provide opportunities to students to follow varied career and learning paths and enjoy educational experiences of different kinds. Plans for degree completion are available in the Catalog of Studies and from colleges, schools, and departments. Academic advising services in each college and school assist students in making plans for their own degree completion and in carrying them out consistent with students' abilities, circumstances, and preferences.

The Eight-Semester Degree Completion Program (DCP), makes it possible for qualified degree-seeking freshmen to express their intention — and assume the associated obligations — to complete identified bachelor's degree programs of study in four academic years. The list of majors and degrees designed to be completed in eight semesters and for which the DCP is available is maintained by each college and school. It may be accessed from the DCP Web site and is published in the Catalog of Studies. Colleges, schools and individual departments can provide this list as well. Before registering for their first semester of study, all freshmen entering the university must accept participation, decline participation, or acknowledge ineligibility for participation in the DCP by signing the Participation Document. New freshmen will be notified regarding how to view the Participation Document on-line and learn more about registering for a Degree Completion Program. A student's participation or nonparticipation in the DCP will not affect scholarship eligibility.

Students who are admissible to the DCP and who choose to participate have the responsibility for meeting all requirements specified by the university and their degree completion plan and the responsibility for complying with the DCP policy. The university is responsible for providing academic support and for ensuring that students can complete university, program and course requirements within eight consecutive semesters. The university will also provide students with timely notifications to the student's official university e-mail address regarding advising, registration, and other requirement completion information.

A student may choose at any time to discontinue participation in the DCP without penalty. Students are encouraged to discuss such choices with an authorized academic adviser for the program of study. Participation and subsequent withdrawal from the DCP will not jeopardize the student's opportunity to complete the degree program, to do so in a timely manner, or to complete another degree program or major by fulfilling program requirements.

In some circumstances it may be in a student's best interest to decline participation or withdraw from the DCP. Examples include students who are not prepared to choose a major before enrolling for the first semester and students who feel that a full semester class load of 15 or 16 hours will be too heavy given other responsibilities. Other students may plan to study abroad for a semester in an institution where the required courses are not offered or to participate in a semester-long internship program not included in the program plan. A decision or need to work or participate in certain time-intensive curricular and extra-curricular activities such as band and intercollegiate athletics may make it impossible to schedule all requirements in some programs. A student may be required to withdraw from the DCP as a result of illness or other personal circumstances that make it impossible to do his or her best work, continue as a full-time student, or complete requirements in the time available. There are also a number of acts and events that may or will cause the DCP agreement to be voided; these are identified below in the section "Student acts and other events that will or may void the degree completion plan agreement."

### **Requirements for Admission to the Eight-Semester Degree Completion Program (DCP):**

1. Participants must begin their program of study in the fall semester as first-time, full-time freshmen and must be committed to be full-time students able to enroll in and successfully complete at least 31-36 hours each academic year.
2. Participants must have chosen a major included in the DCP, must meet all admission requirements for the chosen program of study including applicable program grade point average and other grade

requirements, and must have been admitted to programs requiring formal program admission.

3. Participants must be qualified to begin enrollment in the fall semester without being required to take remedial courses in math, English, or reading or other course prerequisites to entry-level courses in the chosen program of study

### **Requirements for Continuance and Completion of the Eight-Semester Degree Completion Program:**

1. Students must follow exactly the degree completion plan for the chosen major and must meet all the specified requirements in their degree plan each semester unless an alternative is approved by an authorized academic adviser for their program or unless they have already met the requirement.
2. Students must be continuously enrolled in and successfully complete at least 31-36 semester credit hours of appropriate course work each academic year as outlined in their degree completion plan.
3. Students must make satisfactory academic progress as defined by the university and degree program and must maintain the grade point average required by the university and the program of study.
4. Students must monitor their own progress in meeting the requirements identified in their degree completion plan, consistent with the program plan.
5. Students must register for classes at the first/earliest assigned time during their designated registration period each semester for the following term. For courses required for graduation, students must accept any available course or class section that does not conflict with other required courses. Students should understand that special scheduling accommodations cannot be guaranteed for work or other activities including athletics and band. Students must seek assistance from an authorized academic adviser for their chosen program of study if they are unable to identify or register for any course(s) required for that semester in their degree program. For situations in which an authorized academic adviser for the program cannot identify a required course for the student to take, the adviser must notify the department chair and dean for the student's program of study that it has not been possible for the student to complete registration for a required course for the next semester of enrollment. Notification must be made in writing immediately following the unsuccessful attempt to register. Consistent with the terms of the degree completion program, the chairperson or dean will identify an alternate course, in writing, to fulfill graduation requirements or will provide an override to allow the student to enroll in the required course(s). Students must complete registration no later than the last official day of class for the fall or spring term preceding the next term of enrollment, unless the identification of an appropriate course to complete the student's registration is still in progress.
6. Students must have prior written approval by an authorized academic adviser before enrolling in any course at another institution (such as concurrent enrollment, enrollment during a summer term, or study abroad) if the student wishes to transfer the course and have the course included in the coursework submitted for the degree completion plan.
7. Students must confer with an authorized academic adviser for their program before withdrawing from a required course as such a withdrawal will void the DCP agreement.
8. Students must at all times maintain an accurate local address, and telephone number in official university records. Students may make

changes to such information in the Student Information System Self Service component as needed and should make them immediately following any change. Students may also make changes by written notice to the Registrar.

9. Students must respond in a timely way to any official notice or message from an authorized academic adviser and to any official notice regarding registration, degree progress, financial obligations or aid, or any other university requirement.
10. Students must make timely application for all necessary financial assistance, consistent with deadlines.
11. Students must meet all university degree requirements (including formal application for graduation consistent with deadlines and requirements as established by the Registrar for the semester in which the student is scheduled for graduation).

### Student Acts and Other Events That Will or May Void the Degree Completion Plan Agreement:

1. Withdrawing from ("dropping") a required course
2. Receiving a failing grade in a required course or receiving a grade below that required by the program
3. Changing one's major or degree program
4. Withdrawing from the University of Arkansas
5. Failure to meet any degree requirement(s) as specified and in the time specified
6. Unauthorized non-payment or delayed payment of any tuition or fees
7. Incurring a disciplinary action affecting the student's enrollment
8. Failing to comply with any other requirement of the Eight-Semester Degree Completion Policy.

### Appeal Process

A student may appeal the voiding of the DCP to the dean of the college or school in which the student is enrolled. The appeal process requires that the student submit a statement of the basis for the appeal to the dean in writing within 30 days following notification of the voiding of the program, with a copy to an authorized academic adviser for the program. The dean will notify the student and the adviser of the outcome of the appeal within 60 days after receiving the statement.

### Graduation Rates

In accordance with the Student Right-to-Know and Campus Security Act of 1990, the following table is a summary of the institution's six-year graduation rates, those degree-seeking freshmen who enrolled in 2010 and graduated by 2016:

Year	Total Graduate: Men	Total Graduate: Women	Total Graduate: Overall	Percent of Total Men	Percent of Total Women	Percent Overall
All Degree-Seeking Freshmen	1,100	1,333	2,433	59.6%	69.1%	64.5%

Student Athletes Who Received Athletically Related Aid	42%	76%	59%
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## Honors and Scholars Dean's and Chancellor's List

After the end of each semester, all colleges and schools in the university publish an honor roll of the names of the undergraduate students who achieve a 3.75 to 4.00 grade-point average. Students are eligible for the honor roll if they are carrying at least 12 semester hours normally required for graduation by their college for their respective year. This honor roll is the Dean's List.

In addition, a Chancellor's List is published each semester that recognizes those undergraduate students who achieve a 4.00 grade-point average. Students must also be carrying at least 12 semester hours normally required for graduation to be eligible for the chancellor's list.

### First-Ranked Senior Scholars

A first-ranked senior scholar must have a cumulative grade-point average of 4.00 on all course work completed at the time selection is made, must have applied for graduation for a semester to be a member of the appropriate class and must have completed all courses required for the baccalaureate degree at the University of Arkansas, Fayetteville, or in a program of study approved by the Director of Honors or other designee in the college in which the student is enrolled. In determining the cumulative grade-point average for the purposes of such awards, grade forgiveness is not accepted.

### Senior Scholar

Selected graduating seniors who are among those with the highest grade-point average and who have completed at least half of their degree work at the University of Arkansas are recognized by each undergraduate college as a Senior Scholar.

### Graduation Honors

For detailed, discipline-specific information, see the honors section for each college or school major. Students must be members of the Honors College to earn the distinction of graduating *cum laude*, *magna cum laude* or *summa cum laude*. The honors program in the college or school of major sets specific requirements for graduating with honors including a minimum of 12 honors credit hours and the completion of an undergraduate thesis. A combination of honors credit hours, thesis quality, and GPA requirements lead to Latin designation of *cum laude*, *magna cum laude* or *summa cum laude*.

## Requirements for Graduation University Core Requirements

In addition to the requirements listed below, undergraduate students must successfully complete 35 hours of courses in the University Core, also known as the "State Minimum Core." See more on the University Core page (p. 81).

## Enrollment Requirement

To ensure the opportunity to engage with faculty and peers in their area of study at the University of Arkansas, students must fulfill the U of A Enrollment Requirement:

1. Earn a minimum of 30 semester hours at the University of Arkansas, Fayetteville campus—this includes UA faculty-led study abroad classes, online/on-campus classes, and courses offered through the Global Campus (School of Continuing Education and Academic Outreach); and all other courses paid toward Fayetteville campus tuition and fees;
2. These 30 semester hours are to be upper-division semester hours required for the completion of a degree program;
3. Additional hours in residence can be required for completing a minor;
4. Hours earned in another school or college at the University of Arkansas, Fayetteville, may be used to satisfy this requirement — with appeal of appropriate faculty curriculum committee;
5. Appeals to the standards identified in this policy should be made to the Academic Standards Committee.

## Minimum Credits

All students awarded a baccalaureate degree must have a minimum of 120 credit hours. Individual programs may require additional hours. Courses not marked in the course description as eligible to be repeated for degree credit may be included in this total only once.

## Minimum Grade-Point Average

No student will be allowed to graduate if the student has earned below a 2.00 GPA in credit earned at this institution. No student will be allowed to graduate if that student's academic standing is other than good standing.

## Online Credit Hours for On-Campus Undergraduate Students

Any student pursuing an on-campus (face-to-face) undergraduate degree from the University of Arkansas may take up to 35 percent, of the total credit hours required to complete the degree, of regular online (semester/summer) and self-paced online (correspondence) courses for degree credit.

- A freshman (first 30 hours) may take no more than two courses (8 hours) online.
- No student can enroll in more than 12 hours of online courses in any given semester<sup>\*‡</sup>
- For students that have transferred academic credits from other institutions, the percentage of total credit hours obtained at the University of Arkansas through regular (semester/summer) online and self-paced online (correspondence) courses for degree credit cannot exceed 35 percent of the total remaining hours needed to complete the degree after transfer credits are accounted for.
- Exemption from this policy may apply for students in their last semester. All exemption requests must be signed by the department chair and Dean's office that oversee the degree program the student is pursuing.
- All online courses must include the course limits in the class notes presented to students when they register on UAConnect. For instance, the class notes for each class section should include:

"Students pursuing an on-campus (face-to-face) undergraduate degree at the University of Arkansas have the following credit-hour restrictions for online and self-paced courses:

- "Only 35 percent of the total credit hours required to complete the degree can be obtained through online and self-paced course
- "A freshman (fewer than 30 credit hours earned) may take no more than two online and self-paced courses (8 credit hours)
- "No student can enroll in more than 12 online and self-paced hours in any given semester
- "For students that have transferred academic credits from other institutions, the percentage of total credit hours obtained at the University of Arkansas through regular (semester/summer) online and self-paced online (correspondence) courses for degree credit cannot exceed 35 percent of the total remaining hours needed to complete the degree after transfer credits are accounted for.
- "Other restrictions may apply due to federal financial aid policies."

\* For students on financial aid, no more than 6 of these 12 credit hours can come from self-paced online (correspondence) courses. Other financial aid regulations and policies may be applicable on a case by case basis.

‡ International students enrolled full-time are limited to 3 credit hours of online courses per academic term due to federal policies.

## Freshman Course Requirement

University Perspectives is an innovative required one-hour freshman course designed to enhance student success. A "flipped" class, it will have an online component in addition to in-class interaction. The course will emphasize the transition to the university and university-level work by addressing topics such as critical thinking and civic engagement. Other units intended to enhance overall student success include — but are not limited to — note-taking, time management, and academic integrity. All freshmen must complete UNIV 1001 by the end of the first academic year.

## Application for Graduation

Students who plan to graduate must file an official application to do so. Applications should be filed for the term in which degree requirements will be completed. A graduation fee will be required at the time of application.

To ensure that students will be certified for graduation in a timely manner, the following graduation application deadlines have been established:

Date	Description
October 1	for students graduating in Fall
March 1	for students graduating in Spring
July 1	for students graduating in Summer

Students must apply by the established deadline for that term. Any student missing the deadline may apply to graduate in a subsequent term.

A student who fails to complete the degree during the intended semester must contact the Office of the Registrar to renew the application for the term in which the degree requirements will be completed.

## Other Graduation Requirements

Individual colleges and schools may have special graduation requirements, in addition to degree program requirements. Consult the college or school section in this catalog for statements of additional requirements.

## Degree Program Requirements

A student's degree program requirements are normally those specified in the catalog for the student's first year of enrollment. However, students may choose to meet the program requirements specified in a catalog for a later year and, under some circumstances, students may be required to meet degree program requirements incorporated into the curriculum at a level beyond that at which the student is enrolled.

Students who transfer from institutions with articulation agreements with the university may also be allowed to meet the university program requirements in effect during their first year of enrollment in those institutions, subject to the time limits described below and the availability of course work. Students who transfer to a different degree program may be required to meet the program requirements specified in the catalog for the year of entry into that program. Students who are not enrolled for a period of two years or longer may be required to reenter under program requirements in the current catalog. Students who wish to be granted a degree on the basis of requirements specified in a catalog more than seven years old may be required to petition the college or school to be allowed to do so.

Students are expected to keep themselves informed regarding program requirements and changes.

## Additional Bachelor's Degree

A person with a bachelor's degree from the University of Arkansas, or from any other institution, may not receive another bachelor's degree without completing in residence at least 30 hours of additional, not necessarily subsequent, courses selected from the courses leading to a degree for which the person is a candidate.

More than 30 hours of course work may be required. In addition to the college or school requirements, the candidate must also meet all university requirements as stated in the catalog, including graduation and core requirements, except when course work for the first degree satisfies requirements for the second.

## Student Grievances and Appeals

### Informal Resolution

Undergraduate students who wish to seek further review of an academic or non-academic decision or action by the University or a University employee (in an official capacity) that the student contends was in violation of written campus policies, or constitutes unfair or unequal application of such policies, should first seek to resolve such concerns through informal discussions. In particular, grievances regarding academic matters should generally begin with informal discussions with the student's instructor or with the faculty member supervising a course.

If such informal discussions do not reach a satisfactory resolution, then the student may pursue a grievance following the steps in this policy.

### Applicability of Policy

This policy applies to undergraduate students enrolled in traditional courses as well as online courses. This policy does **not** apply to matters

which are covered by other campus policies or appeal procedures, including, but not limited to, the following:

- grade appeals (see description of process below);
- allegations of discrimination or harassment (including sexual harassment) under the university's non-discrimination policy;
- allegations of failure to provide reasonable accommodations for a disability;
- financial aid;
- enforcement of campus parking regulations;
- violations of the Code of Student Life or the university's Academic Dishonesty Policy; or
- violations of the university's Research Misconduct Policy.

In particular, matters involving allegations of unlawful harassment (including sexual harassment), discrimination and/or retaliation should be reported to the university's Office of Equal Opportunity and Compliance, and matters involving alleged failure to provide reasonable accommodations for a disability should be pursued through the grievance process described on the university's Center for Educational Access website. Additional information about each of the above policies is available on the university's website and through the Office of the Dean of Students.

Furthermore, this grievance process is intended to address alleged violations of university policy with respect to individual students, rather than disagreements with existing policies. Questions regarding the applicability of this grievance policy to a particular issue will be determined by the dean of students, in consultation with the provost and other university officials, as necessary.

### Formal Grievance Process

If efforts to resolve a grievance informally are not successful, no later than 60 calendar days following the decision or action that the student seeks to have reviewed, the student shall put the grievance in writing, clearly and succinctly stating the facts relating to the grievance and which policies the student contends have been violated or misapplied. For an academically related grievance, the written grievance shall be submitted to the academic unit chair, head or his or her designee; if the concern relates to the chair, then the written grievance may be submitted to the Dean who may appoint an alternate official to consider the grievance. For a non-academic matter, the grievance should be considered by an administrator with authority over the relevant area. The administrator considering the grievance will review the material provided by the student, and may, at the administrator's discretion, gather any additional information that will be helpful to a decision, whether in writing or through meeting with the student or other persons involved. The administrator reviewing the grievance shall make a decision, in writing, within 10 working days after receiving the student's grievance (excluding the day of receipt), or as soon as possible thereafter. The decision will explain the basis for the decision, remedial steps required, if any, and the procedure for requesting an appeal.

### Appeals

If the student believes the grievance decision is in error, then that person may, within 10 working days after the date of the written decision, appeal the decision to the relevant dean (for an academic matter) or to the relevant vice chancellor or a designee (for non-academic matters). The administrator considering the appeal will review the material provided by the student, the grievance decision, any other material which has been assembled regarding the matter, and any applicable university policies

and may, at his or her discretion, gather any additional information that will be helpful to a decision, whether in writing or through meeting or consulting with any individuals deemed necessary in the administrator's discretion. The administrator reviewing the appeal shall make a decision, in writing, within 10 working days of receiving the student's grievance, or as soon as possible thereafter. The appeal decision shall be final.

### External Complaint Resolution

If a grievance cannot be resolved internally within the university, a student may file a complaint with the appropriate authority in his/her state of residence. Arkansas residents must file complaints in writing with the Arkansas Department of Higher Education (ADHE), 423 Main Street, Suite 400, Little Rock, AR 72201, within 20 days of completing the institution's grievance process. As required by ADHE, the grievant must provide a statement from the institution verifying that the institution's appeal process has been followed. ADHE inquiries are limited to courses/degree programs certified by the Arkansas Higher Education Coordinating Board (AHECB) under Ark. Code § 6#61#301 and to matters related to the criteria for certification. For other states, the State Higher Education Executive Officers Association website (<http://www.shceo.org/node/434>), provides a list of appropriate state officials and/or entities for each state.

Students may also contact the Higher Learning Commission of the North Central Association of Colleges and Schools (<http://www.ncahlc.org>), which is the university's regional accrediting body, at 230 South LaSalle Street, Suite 7-500, Chicago, IL 60604, or at [inquiry@hlcommission.org](mailto:inquiry@hlcommission.org) or 1-800-621-7440. This information is provided pursuant to 34 CFR § 668.43(b).

## Grade Appeal Structure for Undergraduate Students

If a student questions the fairness or accuracy of a grade, there is recourse through a student grade appeal structure. Disagreements shall be heard that allege the instructor's policy was not applied consistently to all students, differed substantially from the announced policy, or that a policy was not announced. All grievances concerning course grades must be filed within one calendar year of the end of the term in which the grade that is being appealed was assigned. The procedures are:

The student should first discuss the matter with the instructor involved, doing so as soon as possible after receiving the grade. The instructor should be willing to listen, to provide explanation, and to be receptive to changing the grade if the student provides convincing argument for doing so. The student's questions may be answered satisfactorily during this discussion.

If the student chooses to pursue the grievance and submits an appeal, the student shall take the appeal in written form to the appropriate department or unit chairperson of the program in which the course was instructed. The appeal should present the basis of the appeal and merits of the grievance with evidence the student may have to support the appeal. If that person determines the case has no merit, that person will inform the student and the instructor. If that person believes the complaint may have merit, that person will discuss it with the instructor. In the case that the department or unit chairperson is the instructor, the student should submit an appeal in written form to the appropriate dean of the college in which the course was instructed.

If the matter remains unresolved, it will be referred to an ad hoc committee composed of programmatic or departmental faculty. This committee would be appointed by the department or unit chairperson and should have at least three faculty representing the program or

department in which the course was instructed. In the case where there are fewer than three faculty within the program or department to serve on the committee, faculty members from a closely related discipline will be appointed to serve. In the case where the department or unit chairperson is the instructor of the grievance, the ad hoc committee would be appointed by the appropriate dean of the college in which the course was instructed. The instructor whose grade is being challenged shall not serve on this ad hoc committee. The committee will examine available written information on the dispute, will be available to meet with the student and with the instructor, and will meet with others as it sees fit.

If the ad hoc faculty committee majority determines, through its inquiries and deliberations, that the grade should not be changed, the committee should communicate this conclusion to the student, the faculty member, and the chairperson. If the ad hoc faculty committee majority determines that the grade should be changed, the committee will request that the instructor make the change and provide the instructor with a written explanation. Should the instructor decline, he or she must provide an explanation for refusing in writing to the ad hoc faculty committee.

If the ad hoc faculty committee, after considering the instructor's written explanation, concludes it would be unjust to allow the original grade to stand, it may then recommend to the department chairperson, or dean in the case where the department chairperson is the faculty whose grade is being challenged that the grade be changed. That individual (department chair or dean) will provide the instructor with a copy of the recommendation and will ask the instructor to implement it. If the instructor continues to decline, the chairperson or dean is then obligated to change the grade, notifying the instructor and the student of this action. Only the chairperson or dean has the authority to effect a grade change over the objection of the instructor who assigned the original grade, and only after the foregoing procedures have been followed.

## Student Privacy

### Annual Notice of Student Rights Under the Family Educational Rights and Privacy Act (FERPA)

The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records. They are as follows:

1. The right to inspect and review the student's education records, with some exceptions under the Act, within 45 days of the day the university receives a request for access. Students should submit to the Office of the Registrar written requests that identify the record(s) they wish 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 or misleading. Students should write the university official responsible for the record, clearly identify the part of the record they want changed, and specify why it is inaccurate or misleading. A sample form, which may be used in making this request, is contained in the appendix to university-wide Administrative Memorandum 515.1.

If the university decides not to amend the record as requested by the student, the university will notify the student of the decision and advise the student of his or her 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 and is also contained in the university-wide Administrative Memorandum 515.1.

3. The right to withhold consent of disclosure of directory information, defined as the following information: the student's name; address; telephone number; email address; major field of study; classification by year; number of hours in which enrolled and number completed; participation in officially recognized activities and sports; weight and height of members of athletic teams; dates of attendance including withdrawal dates; degrees, scholarships, honors, and awards received, including type and date granted; and photograph. This information will be subject to public disclosure unless the student restricts such information through the appropriate settings in UAConnect, the student information system, or informs the Office of the Registrar in writing that he or she does not want this information designated as directory information.
4. The right to consent to disclosures of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent. One exception, which permits disclosure without consent, is 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 (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 educational record to fulfill his or her professional responsibility. Upon request, the university also discloses education records without consent to officials for another school in which a student seeks or intends to enroll.
5. 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 as follows:

Family Policy Compliance Office  
U.S. Department of Education  
400 Maryland Avenue, SW  
Washington DC 20202-4605

6. UA System Policy and Procedure 515.1 (<http://www.uasys.edu/wp-content/uploads/2016/04/UASP-515.1-Student-Education-Records-and-FERPA.pdf>) serves as a supplement to the campus FERPA policy.

## Photographic and Video Images

The university is proud to publish and display photographic and video images of U of A students, their activities and accomplishments. Any student who does not wish to be represented in such photographic and video images by the university should choose to withhold photos on the FERPA option on the university's student information system.

## Transfer of Credit

The following policies control the granting of credit for course work taken at other institutions:

1. Transfer credits are subject to a two-stage evaluation process. First, the eligibility of the hours for transfer is evaluated by the Office of the Registrar based upon decisions of appropriate faculty, the Arkansas Course Transfer System (<http://acts.adhe.edu/studenttransfer.aspx>), and the Transfer Course Equivalency Guide (<https://courseequivalency.uark.edu>). Credits found to be eligible for general transfer may not count toward the minimum requirements for every degree at the University of Arkansas. The second step in the evaluation, performed by the academic dean's office or department responsible for the program of study, determines which hours evaluated will satisfy degree program requirements.
2. Grades earned at other institutions are not calculated in the student's grade-point average earned at the university.
3. General transfer credit is awarded for courses in which a grade of "C" or higher has been earned. Course work must be applicable to a baccalaureate degree; credit is not granted for course work that is remedial or technical in nature.
4. Students can petition to have up to six hours of "D" grades transfer for degree credit to the University of Arkansas. Students must have a 2.00 GPA on a 4.00 scale to be considered, and courses must meet core or elective requirements in the student's degree program. Courses outside the degree program and courses in the major cannot be considered for transfer. The Admissions and Appellate Committee makes all decisions regarding "D" transfers. Petitions can be obtained from the Office of the Registrar.
5. In the case of course work taken at institutions not fully accredited by a regional accrediting agency, transfer credit may be denied altogether or may be granted provisionally subject to successful completion of specified courses at the university. Normally, credit is provisionally granted only if the institution is a candidate for regional accreditation.
6. The State Minimum Core (SMC): Act 98 of 1989 requires each institution of higher learning in Arkansas to identify a minimum core of general education courses that shall be fully transferable between state-supported institutions. Under guidelines from the State Board of Higher Education, the SMC consists of 35 hours distributed among the following education areas: English, U.S. history or government, mathematics, science, fine arts and humanities, and social sciences. Students transferring credit with grades of "C" or better from the approved SMC of another state-supported institution in Arkansas may expect to have all these hours applied toward their degree at the University of Arkansas.
7. Transfer credit policy under Arkansas Act 182 from 2009 requires a four-year public institution of higher education in Arkansas to accept all credits earned from students earning an Associate of Arts, Associate of Science or Associate of Arts in Teaching degree from a state-supported public institution in Arkansas.

Major stipulations of Act 182 are outlined below:

- The transfer degree contains the curriculum that is approved by the Arkansas Higher Education Coordinating Board.
- The four-year public institution of higher education is to admit a transfer student to junior status in a baccalaureate degree program at the four-year public institution of higher education.
- A four-year public institution of higher education receiving a transfer student shall not require additional lower division coursework if the additional course is considered a general education lower division course.

- The receiving four-year public institution of higher education may only require the additional lower division course if the additional lower division course is:
  - A prerequisite for courses in the transfer student's baccalaureate degree program;
  - A discipline-specific course that is required by the transfer student's baccalaureate degree program and the student has not completed a course at the two-year public institution of higher education that is comparable to the discipline-specific course at the four-year public institution of higher education in the Arkansas Course Transfer System;
  - A requirement of an independent licensing or accrediting body
- Act 182 does not remove the requirement that a transfer student must meet total baccalaureate degree program credit hour and course requirements in order to be eligible for a baccalaureate degree.
- The receiving four-year public institution of higher education shall determine whether to accept a grade of "D" for academic course credit for a student transferring from a two-year public institution of higher.

Students should be prepared to submit course descriptions and syllabi of transfer work if there is any question concerning acceptance of credit toward a degree program. The university reserves the right to revise credit for advanced standing after the student has been in residence.

Please refer to the appropriate college or school section of this catalog for additional information concerning acceptance into specific degree programs.

## Military Transfer Credit

The University of Arkansas accepts transfer credit based upon completed military training as evaluated by the American Council of Education (ACE) guidelines and recommendations. The evaluation must be presented to the university on an official transcript from ACE, or a Joint Services Transcript (JST). Equivalencies for military credit as recommended by ACE are evaluated by departmental faculty and may not be exactly the same as ACE. University of Arkansas equivalencies for ACE credit are displayed on the website of the Office of the Registrar in the Transfer Credit section (<http://registrar.uark.edu/transfer-and-test-credit>). Students may elect to receive 6 hours of general military science credit for basic training as evaluated by presentation of the military DD214 with honorable discharge. Officer training would qualify the student for 6 additional hours of general military science credit. The same training may not be presented for both general military science credit and ACE credit.

More information on transfer credit can be found online by going to the Office of the Registrar website (<http://registrar.uark.edu/410.php>).

## Arkansas Course Transfer System (ACTS)

The Arkansas Course Transfer System (ACTS) is a postsecondary education resource service coordinated by the Arkansas Department of Higher Education (ADHE) that provides comparable course information to facilitate student transfer within Arkansas public colleges and universities. The ACTS database contains faculty-generated comparable course information for a number of courses offered at public institutions in Arkansas. Comparable courses within ACTS are guaranteed to transfer for full credit to any Arkansas public institution. Course transferability is not guaranteed for courses listed in ACTS as "No Comparable Course." Find out more at the Arkansas Course Transfer System website (<http://acts.adhe.edu/studenttransfer.aspx>). **Questions regarding ACTS may be directed to an academic adviser or the Office of the Registrar.**

The chart below provides the University of Arkansas course equivalents for each of the ACTS courses offered on the campus. The ACTS course numbers are also identified in the course title of the equivalent U of A course. For instance, the course title for the university's ANTH 1023 Introduction to Cultural Anthropology is listed as:

### ANTH 1023 Introduction to Cultural Anthropology (ACTS Equivalency = ANTH 2013).

Both this chart and the information in the course description are designed to assist students with identifying U of A courses that are guaranteed to transfer between Arkansas public institutions.

ACTS Course	University of Arkansas Course Number
ANTH 2013 Cultural Anthropology	ANTH 1023 Introduction to Cultural Anthropology
ARTA 1003 Art Appreciation	ARHS 1003 Basic Course in the Arts: Art Lecture
ARTA 2003 Art History Survey I	ARHS 2913 Art History Survey I
ARTA 2103 Art History Survey II	ARHS 2923 Art History Survey II
BIOL 1014 Biology for Majors	BIOL 1543 & BIOL 1541L Principles of Biology and Lab
BIOL 1034 Botany for Majors	BIOL 1613 & BIOL 1611L Plant Biology and Lab
BIOL 1054 Zoology	BIOL 1603 & BIOL 1601L Principles of Zoology and Lab
BIOL 2004 Introductory Microbiology	BIOL 2013 & BIOL 2011L General Microbiology and Lab
BIOL 2404 Human Anatomy and Physiology I <sup>1</sup>	BIOL 2443 & BIOL 2441L Human Anatomy and Lab
BIOL 2414 Human Anatomy and Physiology II <sup>1</sup>	BIOL 2213 & BIOL 2211L Human Physiology and Lab
BLAW 2003 Legal Environment of Business <sup>2</sup>	BLAW 2013 The Legal Environment of Business
CHEM 1004 Chemistry I for General Education	CHEM 1053 & CHEM 1051L Chemistry in the Modern World and Lab
CHEM 1214 Chemistry I for Health Related Professions	CHEM 1073 & CHEM 1071L Fundamentals of Chemistry and Lab
CHEM 1224 Chemistry II for Health Related Professions	CHEM 2613 & CHEM 2611L Organic Physiological Chemistry and Lab
CHEM 1414 Chemistry I for Science Majors	CHEM 1103 & CHEM 1101L University Chemistry I and Lab
CHEM 1424 Chemistry II for Science Majors	CHEM 1123 & CHEM 1121L University Chemistry II and Lab
CRJU 1023 Introduction to Criminal Justice	CMJS 2003 Introduction to Criminal Justice
DRAM 1003 Theatre Appreciation	THTR 1003 Basic Course in the Arts: Theatre Appreciation
ECON 2103 Principles of Macroeconomics	ECON 2013 Principles of Macroeconomics
ECON 2203 Principles of Microeconomics	ECON 2023 Principles of Microeconomics
ENGL 1013 Composition I	ENGL 1013 Composition I
ENGL 1023 Composition II	ENGL 1023 Composition II

ENGL 2013 Introduction to Creative Writing	ENGL 2023 Creative Writing I	PHIL 1003 Introduction to Critical Thinking	PHIL 2203 Logic
ENGL 2023 Introduction to Technical Writing	ENGL 3053 Technical and Report Writing	PHIL 1103 Philosophy	PHIL 2003 Introduction to Philosophy
ENGL 2113 World Literature I	WLIT 1113 World Literature I	PHSC 1104 Earth Science	GEOS 4924 Earth System History
ENGL 2123 World Literature II	WLIT 1123 World Literature II	PHSC 1204 Introduction to Astronomy	ASTR 2003 & ASTR 2001L Survey of the Universe and Lab
ENGL 2653 American Literature I	ENGL 2343 Survey of American Literature from the Colonial Period through Naturalism	PHYS 2014 Algebra/Trigonometry-Based Physics I	PHYS 2013 & PHYS 2011L College Physics I and Lab
ENGL 2663 American Literature II	ENGL 2353 Survey of Modern and Contemporary American Literature	PHYS 2024 Algebra/Trigonometry-Based Physics II	PHYS 2033 & PHYS 2031L College Physics II and Lab
ENGL 2673 British Literature I	ENGL 2303 English Literature from the Beginning through the 17th Century	PHYS 2034 Calculus-Based Physics I	PHYS 2054 University Physics I and Lab
ENGL 2683 British Literature II	ENGL 2313 Survey of English Literature from 1700 to 1900	PHYS 2044 Calculus-Based Physics II	PHYS 2074 University Physics II and Lab
FREN 1013 French I	FREN 1003 Elementary French I	PLSC 2003 American National Government	PLSC 2003 American National Government
FREN 1023 French II	FREN 1013 Elementary French II	PLSC 2103 State and Local Government	PLSC 2203 State and Local Government
FREN 2013 French III	FREN 2003 Intermediate French I	PSYC 1103 General Psychology	PSYC 2003 General Psychology
FREN 2023 French IV	FREN 2013 Intermediate French II	PSYC 2103 Developmental Psychology	PSYC 3093 Developmental Psychology
GEOG 1113 Human Geography	GEOS 1123 Human Geography	SOCI 1013 Introduction to Sociology	SOCI 2013 General Sociology
GEOG 2103 World Regional Geography	GEOS 2003 World Regional Geography	SOCI 2013 Social Problems	SOCI 2033 Social Problems
GEOL 1114 Physical Geology	GEOS 1113 & GEOS 1111L General Geology and Lab	SPAN 1013 Spanish I	SPAN 1003 Elementary Spanish I
GEOL 1124 Environmental Geology	GEOS 1133 & GEOS 1131L Earth Science and Lab	SPAN 1023 Spanish II	SPAN 1013 Elementary Spanish II
GERM 1013 German I	GERM 1003 Elementary German I	SPAN 2013 Spanish III	SPAN 2003 Intermediate Spanish I
GERM 1023 German II	GERM 1013 Elementary German II	SPAN 2023 Spanish IV	SPAN 2013 Intermediate Spanish II
GERM 2013 German III	GERM 2003 Intermediate German I	SPCH 1003 Introduction to Oral Communication	COMM 1313 Public Speaking
GERM 2023 German IV	GERM 2013 Intermediate German II		
HIST 1113 World Civilizations I	HIST 1113 Institutions and Ideas of World Civilizations I		
HIST 1123 World Civilizations II	HIST 1123 Institutions and Ideas of World Civilizations II		
HIST 2113 United States History I	HIST 2003 History of the American People to 1877		
HIST 2123 United States History II	HIST 2013 History of the American People, 1877 to Present		
MATH 1103 College Algebra	MATH 1203 College Algebra		
MATH 1113 Quantitative Literacy/Mathematical Reasoning	MATH 1313 Quantitative Reasoning		
MATH 1203 Plane Trigonometry	MATH 1213 Plane Trigonometry		
MATH 1305 Pre-Calculus	MATH 1284C Precalculus Mathematics		
MATH 2103 Introduction to Statistics	STAT 2303 Principles of Statistics		
MATH 2203 Survey of Calculus	MATH 2043 Survey of Calculus		
MATH 2405 Calculus I	MATH 2554 Calculus I		
MATH 2505 Calculus II	MATH 2564 Calculus II		
MATH 2603 Calculus III	MATH 2574 Calculus III		
MUSC 1003 Music Appreciation	MLIT 1003 Basic Course in the Arts: Music Lecture		
PHIL 1003 Introduction to Critical Thinking	PHIL 2103 Introduction to Ethics		

- 1 Human Anatomy and Physiology I and Human Anatomy and Physiology II must be taken at the same institution to be transferable.
- 2 Accounting and business courses are not general education core classes.

## University Core

### University Core Requirements

The University of Arkansas has adopted a "State Minimum Core" of 35 semester-credit-hours of general education courses that are required of all baccalaureate degree candidates. This is in compliance with Arkansas Act 98 of 1989 and the subsequent action of the Arkansas State Board of Higher Education. Since 1991, all state institutions of higher education in Arkansas have had a 35-hour minimum core requirement with specified hours in each of seven academic areas in the table below. The university has identified those courses that meet the minimum requirement, and they are listed in the chart below.

Students should consult the requirements for specific colleges and programs when choosing courses for use in the University Core.

### State Minimum Core

Areas	Hours	University Core
English	6	ENGL 1013, ENGL 1014 (pending approval; effective spring 2018), ENGL 1023, ENGL 1033

Mathematics*	3	MATH 1203/MATH 1204, MATH 1313, or any higher-level mathematics course with MATH 1203 as a prerequisite or as required by major; to include STAT 2303
Science** (Students required to take corresponding lecture/lab combinations as listed)	8	ANTH 1013/ANTH 1011L, ASTR 2003/ASTR 2001L, BIOL 1003/BIOL 1001L, BIOL 1524, BIOL 1543/BIOL 1541L, BIOL 1584, BIOL 1603/BIOL 1601L, BIOL 1613/BIOL 1611L, BIOL 2213/BIOL 2211L, BIOL 2443/BIOL 2441L, CHEM 1053/CHEM 1051L, CHEM 1073/CHEM 1071L, CHEM 1103/CHEM 1101L, CHEM 1123/CHEM 1121L, CHEM 1203/CHEM 1201L, CHEM 1223/CHEM 1221L, ENSC 1003/ENSC 1001L, ENTO 1023/ENTO 1021L, GEOS 1113/GEOS 1111L, GEOS 1133/GEOS 1131L, PHYS 1023/PHYS 1021L, PHYS 1034, PHYS 1044, PHYS 1054, PHYS 2013/PHYS 2011L, PHYS 2033/PHYS 2031L, PHYS 2054, PHYS 2074
Fine Arts	3	ARCH 1003, ARHS 1003, COMM 1003, DANC 1003, ENGL 2023, HUMN 2114H, LARC 1003, MLIT 1003, MLIT 1013, MLIT 1333, THTR 1003, THTR 1013
Humanities	3	Any intermediate level foreign language***, AAST 2023, ARCH 1013, CLST 1003, CLST 1013, COMM 1233, ENGL 1213, GNST 2003, HUMN 1124H, HUMN 2124H, MRST 2013, MUSY 2003, PHIL 2003, PHIL 2103, PHIL 2203, PHIL 3103, WLIT 1113, WLIT 1123
U.S. History	3	HIST 2003, HIST 2013, PLSC 2003
Social Sciences (Select from at least two different fields of study)	9	AGEC 1103, AGECE 2103, ANTH 1023, COMM 1023, ECON 2013, ECON 2023, ECON 2143, GEOS 1123, GEOS 2003, HESC 1403, HESC 2413, HESC 2603, HIST 1113, HIST 1123, HIST 2003****, HIST 2013****, HUMN 1114H, HUMN 2114H, PLSC 2003****, PLSC 2013, PLSC 2203, PSYC 2003, RESM 2853, SOCI 2013, SOCI 2033

\* Some students majoring in math, engineering, science and business may be required to take a higher math as part of the State Minimum Core.

\*\* Some students majoring in math, engineering, science, education and health-related professions may be required to take higher or specific science courses as part of the State Minimum Core.

\*\*\* Numbered at the 2000 level. See Department of World Languages, Literatures and Cultures (p. 357) in the J. William Fulbright College of Arts and Sciences chapter.

\*\*\*\* If not selected to meet the three hours of the U.S. History requirement.

## Rationale for U of A General Education Core

In order to prepare its students for lives of the highest individual quality and the greatest potential contribution to the making of a better world,

the University of Arkansas has developed a comprehensive program of general education. Although the basic skills, knowledge, methodologies, and judgments derived from experience in the core area set forth here may provide the basis for a major or professional concentration, the aims of these core requirements are not career specific. Rather, the following areas are designed to develop the tools for critical thinking and effective communication, an understanding of our richly diverse human heritage, the flexibility to adapt successfully to a rapidly changing world, a capacity for lifelong learning, and an enthusiasm for creativity.

### English/Communication (6 hours)

Courses offered in this area are designed to develop the ability to organize ideas and to communicate them in grammatically correct written English with clarity, precision, and syntactical maturity. Freshman English courses taken at other universities will satisfy this requirement only if they are courses in composition. Students whose ACT scores in English are 18 or below must enroll in the sequence of courses ENGL 0002, ENGL 1013, and ENGL 1023. Students whose ACT scores in English are between 19 and 27 should enroll in ENGL 1013 and ENGL 1023. Students with English ACT scores of 28 or above may enroll in Honors English (ENGL 1013H and ENGL 1023H) or regular English (ENGL 1013 and ENGL 1023). Students with English ACT scores of 30 or above may take ENGL 1013H and ENGL 1023H or elect exemption. Some programs require credit in composition, and students should confer with their advisers before choosing exemption.

### Fine Arts/Humanities (6 hours)

Courses presented in this area are drawn from the study of human thought, emotion, values, culture, and aesthetics. They are designed to develop the capacity for reflection, an appreciation of our own diverse culture and a tolerance of those foreign to us, and a heightened aesthetic and ethical sensibility. The courses are not performance-based, but offer students a basis for the gradual acquisition of broad cultural literacy.

### Mathematics (3 hours)

Courses offered in this area are designed to develop the student's ability to understand the diverse mathematical concepts that shape our increasingly technical culture. Core mathematics courses presuppose the ability to apply mathematical techniques at the level of high school algebra and geometry. The specific course(s) selected will depend upon each student's curriculum, but no course below college algebra may be used to fulfill core requirements.

### Science (8 hours)

A primary goal of these courses is to develop an appreciation of the basic principles that govern natural phenomena and the role of experiment and observation in revealing these principles. Students should acquire an understanding of the relationship between hypothesis, experiment, and theory, and develop the skills common to scientific inquiry, including the ability to frame hypotheses and defend conclusions based on the analysis of data. These courses are designed to prepare a student for informed citizenship by illustrating the importance of science and technology to the present and future quality of life and the ethical questions raised by scientific and technological advances.

### Social Science (9 hours)

The purpose of the social science core is to introduce students to the breadth of inquiry in the social sciences—such as the study of ideas, the behavior of individuals, groups, institutions, and their interactions. The core should expose students to the history of and the challenges encountered in our complex, culturally diverse world.

## American History and Civil Government (3 hours)

Under Arkansas law, no undergraduate degree may be granted to any student who has not passed a college course in American history and civil government. Courses offered by the University of Arkansas, any one of which will meet this requirement, are HIST 2003, HIST 2013, and PLSC 2003.

## Colleges and Schools

Five colleges and six schools offer academic programs leading to undergraduate degrees.

- The Dale Bumpers College of Agricultural, Food and Life Sciences (p. 89), which includes the School of Human Environmental Sciences (p. 146)
- The Fay Jones School of Architecture and Design (p. 160)
- The J. William Fulbright College of Arts and Sciences (p. 183), which includes the School of Art (p. 204), the School of Journalism and Strategic Media (p. 269), and the School of Social Work (p. 348)
- The Sam M. Walton College of Business (p. 364)
- The College of Education and Health Professions (p. 419), which includes the Eleanor Mann School of Nursing (p. 446)
- The College of Engineering (p. 470)

Freshmen and current students in all of the colleges and schools may also be eligible for admission to the Honors College. Students may also enroll in courses offered through the University of Arkansas Global Campus. Last, there are also two interdisciplinary minors that are administered outside these colleges and schools but which use the resources of more than one of them.

## Honors College Mission and Objectives

The Honors College at the University of Arkansas brings together more than 3,000 high-achieving students and 700 of the university's top faculty members in a learning environment characterized by discovery, creativity, and service. Founded in 2002 with a large portion of the \$300 million gift from the Walton Family Charitable Support Foundation, the Honors College has a substantial endowment for undergraduate research and study abroad.

The mission of the Honors College is to build a vibrant, diverse learning community that engages in transformative experiences that prepare our students to excel professionally, flourish personally and lead globally. To achieve this mission, the Honors College collaborates with honors programs across campus to provide a flexible, interdisciplinary honors curriculum that fosters creative and critical thinking and inspires action. The Honors College encompasses the honors programs from each undergraduate college or school.

## Facilities and Resources

The Honors College is housed in a new, 21,000-square foot addition to Gearhart Hall, a historic Collegiate Gothic structure located in the heart of campus. Honors students enjoy a spacious lounge, study areas and rooms for group discussions. A 216-seat auditorium below provides space for classes, lectures, film screenings and other events.

The freshly renovated Hotz Honors Hall, situated in the heart of the northwest housing area, provides housing for 400 first-year honors students in spaces designed to foster community. Hotz offers a large room for relaxation on the main floor, a computer lounge, music room, conference rooms and a small theater. Each floor is equipped with study areas, alcoves for TV viewing and video gaming, and spa-style bathrooms. The Honors College offers special programming for Hotz residents and upper-level honors students in nearby dorms.

## Degrees Offered

Honors programs are offered in all disciplines, tailored to students' academic interests, with interdisciplinary collaborations encouraged. The college or school of major confers honors degrees. Only Honors College students can earn the distinction of graduating *cum laude*, *magna cum laude* or *summa cum laude*.

## Other Programs Honors College Grants

Each year the Honors College awards more than \$1 million in study abroad and undergraduate research grants, which are available to honors students who submit competitive proposals and meet all other requirements. Honors College faculty and staff work closely with the Office of Study Abroad and International Exchange to help honors students find programs that best meet their academic and professional goals. Research grants support laboratory or other creative work and travel to an archive or conference. Deadlines and application instructions are available on the Honors College website at [honorscollege.uark.edu](http://honorscollege.uark.edu).

## Nationally Competitive Awards

The Honors College coordinates with the Office of Nationally Competitive Awards to provide assistance to all students who are applying for national and international graduate fellowships and scholarships (i.e. Marshall, Rhodes, Gates Cambridge, Rotary, Fulbright, and National Science Foundation). For more information, refer to the Enrollment Services section of this catalog.

## Advanced Placement Summer Institute

The Honors College coordinates the annual Advanced Placement Summer Institute (APSI), a College Board-endorsed summer program. The institute provides training to high school and middle school teachers for AP certification in various subjects. Course listings and registration information are available at [honorscollege.uark.edu/apsi](http://honorscollege.uark.edu/apsi).

## College Admission Requirements

To apply for honors, students should visit the Honors College website at [honorscollege.uark.edu](http://honorscollege.uark.edu) and click on Apply. There they can review admission requirements and the honors program requirements in their college. Honors-eligible new freshmen should fill out the Honors College Application, available online. To register for honors classes in their first semester, they should apply before attending freshman orientation.

>New transfer students and current students should contact the honors program director or assistant director in their college to determine eligibility and, for some programs, which form of honors (four-year or departmental) would best meet their needs. Then they should fill out the Honors College Application form. The list of honors program directors and both honors application forms are available online at [honorscollege.uark.edu](http://honorscollege.uark.edu).

The chart below contains basic requirements for each of the honors programs. For detailed information, see the individual honors program

sections for each college or school in this catalog. Note that honors admission is based on the highest composite ACT or SAT score, not on superscores. In calculating GPA, extra weight is given only for Advanced Placement and International Baccalaureate courses.

College or School	New Freshmen	Current Students
Fulbright College of Arts and Sciences	Minimum 28 ACT or 1310 SAT (redesigned exam) or 1240 SAT (pre-March 2016 exam) and 3.5 high school GPA	3.5 cumulative University of Arkansas GPA
Fay Jones School of Architecture	Minimum 28 ACT or 1310 SAT (redesigned exam) or 1240 SAT (pre-March 2016 exam) and 3.5 high school GPA	3.5 cumulative University of Arkansas GPA
College of Education and Health Professions	Minimum 28 ACT or 1310 SAT (redesigned exam) or 1240 SAT (pre-March 2016 exam) and 3.5 high school GPA	3.5 cumulative University of Arkansas GPA
College of Engineering	Minimum 28 ACT or 1310 SAT (redesigned exam) or 1240 SAT (pre-March 2016 exam) and 3.5 high school GPA	3.5 cumulative University of Arkansas GPA
Bumpers College of Agricultural, Food and Life Sciences	Minimum 28 ACT or 1310 SAT (redesigned exam) or 1240 SAT (pre-March 2016 exam) and 3.5 high school GPA	3.5 cumulative University of Arkansas GPA
Walton College of Business	Minimum 28 ACT or 1310 SAT (redesigned exam) or 1240 SAT (pre-March 2016 exam) and 3.75 high school GPA	3.75 cumulative University of Arkansas GPA

## Fellowships and Scholarships

The Honors College administers the most prestigious new freshman awards at the University of Arkansas. The Honors College, Sturgis and Bodenhamer Fellowships provide from \$70,000 in support over a four-year period, are highly competitive and require an in-depth application process and interview. For more details, visit the Honors College website at [honorscollege.uark.edu](http://honorscollege.uark.edu) and click on Future Students.

The Academic Scholarship Office awards scholarships to a variety of students. Students do not have to be in the Honors College to receive these scholarships. For additional information, visit the Academic Scholarship Office website at [scholarships.uark.edu](http://scholarships.uark.edu) and see the chapter on Financial Aid and Scholarships in this catalog.

## Student Organizations

All honors students are eligible to apply for the Honors College Ambassadors program. This group supports the honors community by participating in campus recruiting events and meeting with prospective

students. The Honors College Student Advisory Council offers a select group of student leaders an opportunity to make a real impact on the Honors College. Honors College students in all disciplines also have the opportunity to share their research and study abroad experiences with Advanced Placement and honors classes in their hometown high school through the Celebrating Discovery program.

## College Academic Regulations

The college or school of major sets specific requirements for graduating with honors including a minimum of 12 honors credit hours and the completion of an undergraduate thesis. A combination of honors credit hours, thesis quality, and GPA requirements lead to Latin designation of *cum laude*, *magna cum laude* or *summa cum laude*. Registration for honors courses is restricted to honors students or other students who meet the honors criteria and who have been approved by the honors program offering the course. For more information, see the honors sections for the college or school major.

### Honors College Office

244 Gearhart Hall, 479-575-7678

### Dean

Lynda Coon

### Interim Associate Dean

Jennie Popp

### Advanced Placement Summer Institute

244 Gearhart Hall, 479-575-7678

Email: [honors@uark.edu](mailto:honors@uark.edu)

Honors College website (<http://honorscollege.uark.edu>)

## Interdisciplinary Studies

### Mission and Objectives

The University of Arkansas provides several options for students to pursue education more broadly than one field of undergraduate study might allow, including interdisciplinary and multidisciplinary programs. These programs allow broader instruction and research opportunities, especially in emerging fields that haven't reached the academic breadth to constitute a full academic department or in cases in which collaboration between one or more departments allows faculty from each existing department to contribute to the interdisciplinary or multidisciplinary major. In the Catalog of Studies (<http://catalog.uark.edu/catalogofstudies>), requirements for each interdisciplinary program are listed in the chapter of the college or school that oversees the program.

Four interdisciplinary minors — Microelectronics-Photonics (p. 85), Nanotechnology (p. 86), Planning (p. 88), and Sustainability (p. 88) — are not administered by a single academic department. The minor in Microelectronics-Photonics is administered by the Division of Interdisciplinary Studies in the Graduate School. The minors in Nanotechnology and Sustainability are administered by the Provost's Office. The minor in Planning is jointly administered by the departments of Landscape Architecture and Political Science. The requirements for completing each minor are at their respective links.

# Microelectronics-Photonics (MEPH)

## Faculty

**Simon S. Ang**, Professor  
**Juan Carlos Balda**, University Professor, Twenty-First Century Leadership Chair in Engineering  
**Salvador Barraza-Lopez**, Associate Professor  
**Robert R. Beitle Jr.**, Professor  
**Laurent Bellaiche**, Distinguished Professor  
**Mourad Benamara**, Assistant Professor  
**Jingyi Chen**, Associate Professor  
**Zhong Chen**, Assistant Professor  
**Hugh O.H. Churchill**, Assistant Professor  
**Robert Coridan**, Assistant Professor  
**Jia Di**, Professor, 21st Century Research Leadership Chair  
**Magda O. El-Shenawee**, Professor  
**Ingrid Fritsch**, Professor  
**Huaxiang Fu**, Professor  
**William G. Harter**, Professor  
**Joseph B. Herzog**, Assistant Professor  
**Jamie A. Hestekin**, Professor, Jim L. Turpin Professorship in Chemical Engineering  
**Colin David Heyes**, Associate Professor  
**Po-Hao Adam Huang**, Associate Professor  
**David Huitink**, Assistant Professor  
**Morten O. Jensen**, Associate Professor  
**Jin-Woo Kim**, Professor  
**Pradeep Kumar**, Assistant Professor  
**Jiali Li**, Professor  
**Yanbin Li**, Distinguished Professor, Tyson Endowed Chair in Biosensing Engineering  
**Ajay P. Maishe**, Distinguished Professor, Twenty-First Century Chair of Materials, Manufacturing and Integrated Systems  
**Omar Manasreh**, Professor  
**Alan Mantooth**, Distinguished Professor, Twenty-First Century Chair in Mixed-Signal IC Design and CAD  
**Roy A. McCann**, Professor  
**Paul Millett**, Assistant Professor  
**Mahmoud Moradi**, Assistant Professor  
**Timothy J. Muldoon**, Assistant Professor  
**Arun Nair**, Assistant Professor  
**Hameed A. Naseem**, University Professor  
**William Oliver III**, Associate Professor  
**Edward A. Pohl**, Professor, Twenty-First Century Professorship in Engineering  
**Errol Porter**, Research Associate  
**Donald K. Roper**, Associate Professor, Charles W. Oxford Professorship in Emerging Technologies  
**Gregory J. Salamo**, Distinguished Professor  
**R. Panneer Selvam**, University Professor, James T. Womble Professor of Computational Mechanics and Nanotechnology Modeling  
**Shannon Servoss**, Associate Professor  
**Woodrow L. Shew**, Associate Professor  
**Surendra P. Singh**, University Professor  
**Julie A. Stenken**, Professor, 21st Century Chair of Proteomics  
**Ryan Tian**, Associate Professor  
**Steve Tung**, Professor  
**Ken Vickers**, Adjunct Research Professor, Retired from PHYS, MEPH in 2015  
**Yong Wang**, Assistant Professor

**Morgan Ware**, Assistant Professor  
**Uchchukwu C. Wejinya**, Associate Professor  
**Jie Xiao**, Associate Professor, Arkansas Research Alliance Scholar  
**Min Xiao**, Distinguished Professor  
**Fisher Yu**, Associate Professor  
**Wenchao Zhou**, Assistant Professor  
**Min Zou**, Professor, Twenty-First Century Professorship

Rick Wise  
 Program Director  
 103 Nanoscale Material Science and Engineering Building  
 479-575-2875

Russell DePriest  
 Assistant Program Director for microEP minor  
 239 Physics  
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 http://microEP.uark.edu

Microelectronics-Photonics (microEP) is an interdisciplinary program based in the Division of Interdisciplinary Studies in the Graduate School that prepares students for careers involving micro/nano materials, processing, and devices applied in areas such as photonics, microelectronics, bio/chemical analysis, etc. The microEP Graduate Program offers M.S. and Ph.D. degrees, as well as an undergraduate minor in Microelectronics-Photonics.

The purpose of this minor is to allow undergraduates in science and engineering to be able to capitalize on the research and educational core of the microEP Graduate Program as they prepare to enter the job market or compete for positions in top level graduate programs.

### Requirements for a minor in Microelectronics-Photonics:

Select one of the following:	3
INEG 4323 Quality Engineering and Management (Irregular)	
INEG 4433 Systems Engineering and Management (Fa)	
INEG 4443 Project Management (Irregular)	
Select four of the following:	12
BENG 4123 Biosensors & Bioinstrumentation (Odd years, Sp)	
CHEM 4213 Instrumental Analysis (Sp)	
ELEG 4203 Semiconductor Devices (Irregular)	
ELEG 4223 Design and Fabrication of Solar Cells (Irregular)	
MEEG 4303 Materials Laboratory (Irregular)	
MEPH 488V MicroEP Undergraduate Research (Sp, Fa)	
PHYS 3603 Introduction to Modern Physics (Fa)	
PHYS 4713 Solid State Physics (Even years, Sp)	
PHYS 4213 Physics of Devices (Odd years, Fa)	
Or from other appropriate courses not on this list if approved first by the microEP Program and by the course instructor. <sup>1</sup>	
Total Hours	15

<sup>1</sup> See examples at the microEP Web site.

Students accepted into the microEP minor must attend an orientation session at the beginning of each semester as well as the monthly microEP graduate student research presentations. Students enrolled in the microEP minor must attend at least one public presentation of a Master of Science thesis in microEP or a Doctor of Philosophy dissertation in microEP each semester. Students wishing to declare

this minor must apply through the microEP Program Web site, <http://microEP.uark.edu>, and be accepted into the minor at least two regular semesters before their graduation date.

## Nanotechnology (NANO)

Gregory Salamo  
Director  
205 NANO  
479-575-5931  
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Min Zou  
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[nano@uark.edu](mailto:nano@uark.edu) ( [nano@uark.edu](mailto:nano@uark.edu) )  
<http://nano.uark.edu>

### Nanotechnology Minor Faculty Coordinators and Curriculum Committee

- Gregory Salamo, Distinguished Professor, Physics
- Min Zou, Associate Professor, Mechanical Engineering
- Jin-Woo Kim, Professor, Biological and Agricultural Engineering
- David Zaharoff, Assistant Professor, Biomedical Engineering
- Donald Keith Roper, Associate Professor, Chemical Engineering
- Gregory J. Thoma, Professor, Chemical Engineering
- Jingyi Chen, Assistant Professor, Chemistry and Biochemistry
- Fisher Yu, Assistant Professor, Electrical Engineering
- Steve Tung, Associate Professor, Mechanical Engineering
- Po-Hao Adam Huang, Associate Professor, Mechanical Engineering

The Nanotechnology minor is an interdisciplinary program that provides students with foundational knowledge and skills related to the emerging field of nanotechnology, including hands-on experience in several major areas of nanotechnology, such as synthesis of nanomaterials, nanoscale imaging, nanostructure assembly and manipulation, device and system integration, and performance evaluation. The Nanotechnology minor draws faculty expertise and coursework from the College of Engineering and the J. William Fulbright College of Arts and Sciences and utilizes state-of-the-art equipment and facilities at the Institute for Nanoscience and Engineering. The Nanotechnology minor is intended to prepare participating students for a career in which nanotechnology is playing an increasingly important role, and increase students' research competitiveness for graduate studies. The Nanotechnology minor is designed to be accessible to students majoring in engineering, physics, or chemistry and biochemistry. It is open to all students who have the necessary prerequisites to enroll in the courses that constitute the minor.

### Requirements for the Nanotechnology Minor

Students wishing to participate in the Nanotechnology minor must declare participation formally. The students are required to meet with the faculty coordinator of an individual department who will help the student to develop a list of courses suitable for the minor and a schedule for taking those courses. Examples of model programs for each participating department are given below.

Students need to take a total of 15 credit hours, which includes 6 credit hours of required courses and 9 credit hours of elective courses and must

earn a grade of "C" or better for all courses used to fulfill the requirements of the Nanotechnology minor.

### Required Courses (6 hours)

Nanotechnology Laboratory	3
BENG 4753L Nanotechnology Laboratory (Fa) or BENG 4753H Honors Nanotechnology Laboratory (Fa)	
BMEG 4103L Nanotechnology Laboratory (Fa) or BMEG 4103H Honors Nanotechnology Laboratory (Fa)	
CHEM 4153L Nanotechnology Laboratory (Fa) or CHEM 4153H Honors Nanotechnology Laboratory (Fa)	
MEEG 4323L Nanotechnology Laboratory (Fa) or MEEG 4323H Honors Nanotechnology Laboratory (Fa)	
PHYS 4793L Nanotechnology Laboratory (Fa) or PHYS 4793H Honors Nanotechnology Laboratory (Fa)	

Nanotechnology Research (Independent Study or Honors Thesis in nanotechnology) 3

Students can choose from the following courses:

BENG 450V Special Problems (Sp, Su, Fa)	
BENG 451VH Honors Thesis (Sp, Su, Fa)	
BMEG 450VH Honors Thesis (Sp, Su)	
BMEG 460VH Honors Individual Study (Sp, Su, Fa)	
CHEG 488V Special Problems (Sp, Su, Fa)	
CHEM 400V Chemistry Research (Sp, Su, Fa)	
ELEG 488V Special Problems (Sp, Su, Fa)	
ELEG 488VH Honors Special Problems (Irregular)	
MEEG 492V Individual Study in Mechanical Engineering (Sp, Su, Fa)	
MEEG 4903H Honors Mechanical Engineering Research (Sp, Fa)	
PHYS 498V Senior Thesis (Sp, Su, Fa)	
PHYS 306V Projects (Irregular)	
PHYS 399VH Honors (Sp, Su, Fa)	

### Elective Courses

A minimum of 9 hours of elective courses selected from the following: 9

BENG 3113 Measurement and Control for Biological Systems (Sp) or BENG 3113H Honors Measurement and Control for Biological Systems (Sp)	
BENG 3733 Transport Phenomena in Biological Systems (Fa)	
BENG 4743 Food and Bio-Product Systems Engineering (Fa)	
BENG 4123 Biosensors & Bioinstrumentation (Odd years, Sp)	
BENG 4743 Food and Bio-Product Systems Engineering (Fa)	
BMEG 3634 Biomaterials (Fa)	
BMEG 3824 Biomolecular Engineering (Sp)	
BMEG 4243 Advanced Biomaterials and Biocompatibility (Irregular)	
CHEG 3713 Chemical Engineering Materials Technology (Sp)	
CHEM 4123 Advanced Inorganic Chemistry I (Fa)	
CHEM 4213 Instrumental Analysis (Sp)	
CHEM 4283 Energy Conversion and Storage (Even years, Fa)	
ELEG 4253 Nanotechnology in Engineering & Medicine (Irregular)	
ELEG 4203 Semiconductor Devices (Irregular)	



ELEG 4303	Introduction to Nanomaterials and Devices (Irregular)
ELEG 4213	MEMS and Microsensors (Fa)
MEEG 491V	Special Topics in Mechanical Engineering (Sp, Su, Fa)
MEEG 4313	Introduction to Tribology (Irregular)
MEEG 4303	Materials Laboratory (Irregular)
PHYS 3213	Electronics in Experimental Physics (Odd years, Sp)
PHYS 4073	Introduction to Quantum Mechanics (Fa)
PHYS 4213	Physics of Devices (Odd years, Fa)
PHYS 4713	Solid State Physics (Even years, Sp)
PHYS 4773	Introduction to Optical Properties of Materials (Even years, Sp)

or from other appropriate courses not on this list if approved first by the Nanotechnology Minor Curriculum Committee and by the course instructor.

Below are model programs for students from different participating departments. Students also have the flexibility to design their own programs according to the stated requirements above.

### Model program for a student majoring in Biological Engineering

#### Required Courses (6 hours) 6

BENG 4753L	Nanotechnology Laboratory (Fa)
	or BENG 475H Honors Nanotechnology Laboratory (Fa)
BENG 450V	Special Problems (Sp, Su, Fa)
	or BENG 450H Honors Thesis (Sp, Su, Fa)

#### Elective Courses (9 hours) 9

BENG 3113	Measurement and Control for Biological Systems (Sp)
	or BENG 3113H Honors Measurement and Control for Biological Systems (Sp)
BENG 4743	Food and Bio-Product Systems Engineering (Fa)
BENG 4123	Biosensors & Bioinstrumentation (Odd years, Sp)

### Model program for a student majoring in Biomedical Engineering

#### Required Courses (6 hours) 6

BMEG 4103L	Nanotechnology Laboratory (Fa)
	or BMEG 4103H Honors Nanotechnology Laboratory (Fa)
BMEG 450VH	Honors Thesis (Sp, Su)
	or BMEG 4603H Honors Individual Study (Sp, Su, Fa)

#### Elective Courses (9 hours) 9

BMEG 3634	Biomaterials (Fa)
BMEG 3824	Biomolecular Engineering (Sp)
BMEG 4243	Advanced Biomaterials and Biocompatibility (Irregular)

### Model program for a student majoring in Chemical Engineering

#### Required Courses (6 hours) 6

PHYS 4793L	Nanotechnology Laboratory (Fa)
	or PHYS 4793H Honors Nanotechnology Laboratory (Fa)

CHEG 488V	Special Problems (Sp, Su, Fa)
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#### Elective Courses (9 hours) 9

CHEG 3713	Chemical Engineering Materials Technology (Sp)
CHEG 5023	Nano Bio Photonics (will be co-listed 4000-level course in the future)
CHEG 4043	Colloids and Surfaces

### Model program for a student majoring in Chemistry

#### Required Courses (6 hours) 6

CHEM 4153L	Nanotechnology Laboratory (Fa)
	or CHEM 4153H Honors Nanotechnology Laboratory (Fa)
CHEM 400V	Chemistry Research (Sp, Su, Fa)

#### Elective Courses (9 hours) 9

CHEM 4123	Advanced Inorganic Chemistry I (Fa)
CHEM 4213	Instrumental Analysis (Sp)
CHEM 4283	Energy Conversion and Storage (Even years, Fa)

### Model program for a student majoring in Electrical Engineering

#### Required Courses (6 hours) 6

PHYS 4793L	Nanotechnology Laboratory (Fa)
ELEG 488V	Special Problems (Sp, Su, Fa)
	or ELEG 488VH Honors Special Problems (Irregular)

#### Elective Courses (9 hours) 9

ELEG 4253	Nanotechnology in Engineering & Medicine (Irregular)
ELEG 4203	Semiconductor Devices (Irregular)
ELEG 4303	Introduction to Nanomaterials and Devices (Irregular)

### Model program for a student majoring in Mechanical Engineering

#### Required Courses 6

MEEG 4323L	Nanotechnology Laboratory (Fa)
	or MEEG 4323H Honors Nanotechnology Laboratory (Fa)
MEEG 492V	Individual Study in Mechanical Engineering (Sp, Su, Fa)
	or MEEG 4923H Honors Mechanical Engineering Research (Sp, Fa)

#### Elective Courses 9

MEEG 491V	Special Topics in Mechanical Engineering (Sp, Su, Fa)
MEEG 4313	Introduction to Tribology (Irregular)

### Model program for a student majoring in Physics

#### Required Courses (6 hours) 6

PHYS 4793L	Nanotechnology Laboratory (Fa)
	or PHYS 4793H Honors Nanotechnology Laboratory (Fa)
PHYS 498V	Senior Thesis (Sp, Su, Fa)
	or PHYS 3993H Honors (Sp, Su, Fa)

#### Elective Courses (9 hours) 9

PHYS 4073	Introduction to Quantum Mechanics (Fa)
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PHYS 4713	Solid State Physics (Even years, Sp)
PHYS 4773	Introduction to Optical Properties of Materials (Even years, Sp)

## Planning (PLAN)

Noah Billig, Landscape Architecture  
WALK 304  
nsbillig@uark.edu

John Gaber, Political Science  
MAIN 428  
479-575-3356  
jgaber@uark.edu

### Minor in Planning

The departments of Landscape Architecture and Political Science collaboratively offer an interdisciplinary minor in Planning for students interested in regional and urban planning. A student who wants to minor in Planning should notify either the Department of Landscape Architecture or Political Science and consult an academic adviser. A Planning minor consists of 18 hours of required and elective courses subdivided into three concentrations. A student should choose one concentration and take 6 hours of elective courses in that concentration. The minor's required and elective courses include:

#### Required Courses:

LARC 5386	Landscape Architecture Design VIII (Sp)	6
or LARC 5493	Environmental Land Use Planning (Sp)	
and one 3 credit-hour elective from the Spatial Concentration		
PLSC 3253	Urban Politics (Sp)	3
PLSC 4103	Introduction to Urban Planning (Fa)	3

#### Electives 6

Select two courses from one group

##### Policy Group:

ANTH 4443	Cultural Resource Management I (Sp)
ANTH 5113	Anthropology of the City (Irregular)
ENSC 3413	Principles of Environmental Economics (Sp)
LARC 4033	Theory (Fa)
LARC 4743	Public Participation in Design and Planning (Irregular) (Public Participation in Design and Planning not offered until 2014)
PLSC 390V	Special Topics (Sp, Su, Fa)
PLSC 4283	Federalism and Intergovernmental Relations (Even years, Sp)
HDFS 4603	Environmental Sociology (Fa)
SCMT 3443	Transportation and Distribution Management (Sp, Fa)

##### Spatial Group:

ARCH 5493	History of Urban Form (Irregular)
ARCH 5933	Preservation and Restoration (Irregular)
ANTH 5113	Anthropology of the City (Irregular)
ENSC 3413	Principles of Environmental Economics (Sp)
GEOS 4073	Urban Geography (Sp)
LARC 402V	Special Studies (Irregular)
LARC 4033	Theory (Fa)

LARC 4753	Incremental Sprawl Repair (Irregular) (Incremental Sprawl Repair not offered until 2014)
LARC 5053	Historic Landscape Preservation (Irregular)
HDFS 4603	Environmental Sociology (Fa)

##### Environmental Group:

ANTH 4443	Cultural Resource Management I (Sp)
ANTH 4603	Landscape Archaeology (Fa)
BIOL 3863	General Ecology (Sp, Fa)
ENSC 3223	Ecosystems Assessment (Even years, Fa)
ENSC 3221L	Ecosystems Assessment Laboratory (Even years, Fa)
ENSC 3413	Principles of Environmental Economics (Sp)
LARC 4033	Theory (Fa)
LARC 5053	Historic Landscape Preservation (Irregular)
HDFS 4603	Environmental Sociology (Fa)

Total Hours 18

## Sustainability (SUST)

### Faculty

Steve K. Boss, Professor

Stephen K. Boss  
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#### Sustainability Curriculum Steering Committee

- Professor Myria Allen, Communication
- Professor Stephen Boss, director, Geosciences
- Professor Kevin Fitzpatrick, Sociology
- Associate Dean Carol Gattis, Honors College
- Clinical Assistant Professor David Hyatt, Supply Chain Management
- Professor Jon Johnson, Management
- Professor Kim LaScola#Needy, Industrial Engineering
- Professor Marty Matlock, Biological and Agricultural Engineering
- Clinical Associate Professor Zola Moon, Human Environmental Sciences
- Professor Jennie Popp, Agricultural Economics and Agribusiness

The minor in Sustainability is interdisciplinary, drawing from faculty and course work across all colleges of the University of Arkansas. The minor is accessible to all undergraduate students, regardless of degree program. The purpose of the minor in Sustainability is to provide foundational knowledge and skills related to the emerging discipline of sustainability, organized around four thematic areas reflecting strength in scholarship of University of Arkansas academic colleges: Sustainability of Social Systems, Sustainability of Natural Systems, Sustainability of Built Systems, and Sustainability of Managed Systems. Students who complete the minor in Sustainability will be expected to:

- Articulate commonly accepted definitions of sustainability and discuss various nuances among those definitions;

- Have an understanding of the interdisciplinary nature of sustainability issues, particularly as they pertain to the thematic areas of knowledge addressed by the minor (sustainability of natural systems, sustainability of managed systems, sustainability of built systems, and sustainability of human social systems);
- Be conversant regarding acquisition and analysis of data pertinent to sustainability issues;
- Communicate orally and in writing organized thoughts defining sustainability issues;
- Identify appropriate potential strategies to address sustainability issues using data and provide results of rudimentary analyses of data using novel metrics or statistics;
- Make recommendations, based on data analysis and interpretation, to advance sustainability of individuals or institutions.

## Required Courses for a Minor in Sustainability

Students must earn a grade of 'C' or better for all courses used to fulfill requirements of the minor in Sustainability.

SUST 1103	Foundations of Sustainability (Sp)	3
SUST 2103	Applications of Sustainability (Fa)	3
Elective courses with sustainability focus selected from a broad menu of offerings in four thematic areas:		9
	Sustainability of Social Systems	
	Sustainability of Natural Systems	
	Sustainability of Built Systems	
	Sustainability of Managed Systems	
Elective courses are categorized as Tier 1 and Tier 2. Tier 1 courses are those with dominant sustainability content or fundamental principles related to understanding sustainability. Tier 1 courses must comprise at least 6 hours of the 9 elective hours. Tier 2 courses are those with subordinate sustainability content or associated principles related to understanding sustainability, but with content useful in preparing students with prerequisite knowledge for Tier 1 courses. Only 3 hours of Tier 2 courses will be accepted in fulfillment of the elective hours in the Minor in Sustainability.		
Complete lists of Tier 1 and Tier 2 courses by thematic areas are presented below.		
SUST 4103	Capstone Experience in Sustainability (Sp)	3
Total Hours		18

**List of Available Elective Courses:** Students choose 9 hours from menus provided on the Sustainability website (<http://sustainability.uark.edu/academics/minor/minor-courses.php>); at least six hours must be chosen from Tier 1 courses (with prerequisites, if applicable).

## Capstone Experience

All students participating in the minor in Sustainability must complete a capstone experience focused on service learning, research learning, or internship in sustainability. Student engagement in community service, research, or relevant work on sustainability through a summer internship provides opportunities for students to apply sustainability theories and principles learned from prior coursework toward advancing sustainability across society.

Students may formally petition the University of Arkansas Sustainability Curriculum Steering Committee to substitute sustainability-oriented senior

design projects, Honors College research projects, other service learning courses, or equivalent internship experiences for SUST 4103 to satisfy the capstone element of minor in Sustainability. Details of the procedure to substitute alternative experiences for SUST 4103 can be found in the Foundations of Sustainability Program Handbook.

To qualify for SUST 4103 or other sustainability capstone experience, students must have successfully completed SUST 1103, SUST 2103, and 6 hours of elective course work toward the minor in Sustainability.

## Dale Bumpers College of Agricultural, Food and Life Sciences

### Mission and Vision

The **vision** of the Dale Bumpers College of Agricultural, Food and Life Sciences is to lead Arkansas and the world by delivering pre-eminent programs in agricultural, food and life sciences that produce leaders through education, research and outreach.

The **mission** of the Dale Bumpers College of Agricultural, Food and Life Sciences is to improve the quality of life for Arkansans by preparing students for successful careers, conducting impactful research, and sharing knowledge to promote viable food and agricultural systems, sustainable environments, healthy families and vibrant communities.

### History and Organization

As the state's land-grant university, the University of Arkansas has the responsibility for leadership in teaching, research, and service in the agricultural and human environmental sciences. This responsibility is shared with the Division of Agriculture.

The Bumpers College is an integral component of the University of Arkansas and addresses the teaching responsibility of the land-grant university. Its roots lie in the First Morrill Act of 1862, which created the land-grant system by providing a grant of land to each state for the establishment of a college "where the leading objective shall be, without excluding other scientific and classical studies and including military tactics, to teach such branches of learning as are related to agriculture and the mechanical arts in such manner as the legislatures of the state may prescribe to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life." Agricultural sciences have been taught at the University of Arkansas almost from the beginning of the institution in 1872. The university conferred the first degrees in agriculture in 1904.

Early instruction and outreach efforts focused on improving rural life for men, women, and children. Farm wives were interested in beautifying the home, food preparation and safety, and gardening. Foods and nutrition, bacteriology, chemistry, and other related subjects held a common scientific interest for both agriculture and home economics, so it naturally evolved that studies in home economics should develop within the realm of agricultural education. Domestic science classes were offered as early as 1909, and a department of home economics was established in 1913. The department was elevated to school status in 1994, and its name was changed to the School of Human Environmental Sciences.

The passage of the Hatch Act in 1887 and subsequent legislation made possible the Agricultural Experiment Station, the research component of the Division of Agriculture. Most faculty who teach in the Bumpers

College also hold appointments in the Experiment Station and are able to incorporate active research into their teaching.

The dissemination of university research in agriculture and human environmental sciences is carried out by personnel in the Cooperative Extension Service, created by the Smith-Lever Act of 1914. Many Extension specialists also hold adjunct faculty status and bring their expertise to the teaching program.

It is this blending of teaching, research, and service functions that create a unique learning environment in the college. As students learn to relate basic areas of science to human needs, they study in laboratory-based classes and are taught in research facilities supported by the Division of Agriculture. Similarly, students are encouraged to intern with professionals in industry and governmental agencies, including the Cooperative Extension Service.

In recognition of the land-grant mission of the university and its commitment to serve the entire state, the Dale Bumpers College of Agricultural, Food and Life Sciences has worked cooperatively with numerous community colleges to facilitate the “seamless” transfer of students to the Bumpers College. Coordinated advising, recruiting, and curricula development are working goals of the Bumpers College and students interested in transferring while enrolled at a community college should contact the Bumpers College dean’s office at 479-575-2252 or [aflsdean@uark.edu](mailto:aflsdean@uark.edu) ( [aflsdean@uark.edu](mailto:aflsdean@uark.edu)).

## Facilities and Resources

The Dale Bumpers College of Agricultural, Food and Life Sciences is composed of nine academic departments and the School of Human Environmental Sciences. The college offers both undergraduate and graduate level degrees.

The Agricultural, Food and Life Sciences Building houses the dean’s office and the department of Animal Science and serves as the headquarters for the college academic functions. There are six other buildings on campus operated by the college including the Agriculture Building, Human Environmental Sciences Building, Rosen Center, Plant Science Building, Agricultural Annex, and the Center of Excellence for Poultry Science. Additionally, the Food Science Building, Alzheimer Laboratory, Abernathy Agriscience and Technology Center, Pauline Whitaker Animal Science Arena, and the Dorothy E. King Equine Science facilities are located at the Research and Extension Center north of the main campus. These serve as additional teaching laboratories or classroom facilities. Also, the Jean Tyson Child Development Study Center is managed by the college to provide instructional training for the child development program.

Several classrooms are equipped with “class capture” technology to allow students to view lectures online and to aid distance education courses. Students can receive academic assistance through resources provided by the dean’s office. Students can also seek assistance through the Class+, a campus-wide resource.

## College Scholarships

In addition to the scholarships awarded by the university, there are a number of scholarships available to students in agricultural and human environmental sciences made possible by generous gifts from many firms and individuals. To be considered for a college scholarship, students must first be admitted to the university. Most scholarships require students to be enrolled full-time, at least 12 credit hours per semester. A college scholarship application, which serves as an application to all available scholarships offered by the college and/or individual departments, must

be submitted each year. For additional information, please see the Bumpers College Scholarship website (<http://bumperscollege.uark.edu/academics/scholarships-and-financial-aid>). A listing of various outside scholarships is available for review on the college’s web site. There are also miscellaneous outside scholarships for which applications are available in some departmental offices. For more information on scholarships, contact the dean’s office.

## Student Organizations

**Agricultural Business Club** is for students interested in agricultural business and economics.

**Agricultural Communicators of Tomorrow (ACT)** is designed for students with an interest in agricultural communications.

**Agricultural Mechanization Club** is a student organization for those with an interest in agricultural systems technology management.

**American Association of Family and Consumer Sciences (AAFCS)** offers student membership to all human environmental sciences majors. Monthly meetings highlight various phases of human environmental sciences and provide social contact with other majors. In addition, members become involved in local service projects and may attend statewide workshops and leadership training sessions.

**Association of Apparel Merchandising and Product Development (AAMPD)** is an organization open to all students interested in the fashion industry.

**Collegiate FFA** is for any student who has been active in 4-H or FFA or has a current interest in service to these youth-oriented organizations. This club is especially designed for students interested in teaching agricultural education or working for the Cooperative Extension Service.

**Collegiate Farm Bureau** helps prepare tomorrow’s agricultural leaders. Through Collegiate Farm Bureau, members get the opportunity to take part in shaping agricultural issues and in setting the current Farm Bureau legislative agenda at the county, state, and na

**Crop, Soil, and Environmental Science Club** is a student organization for those interested in crops and soils through both an agricultural and environmental perspective.

**Food Science Club** is an organization for those students interested in food science.

**Horticulture Club** is a student organization for those interested in horticulture including floriculture, ornamentals, turf, small fruits and vegetables.

**Isely-Baerg Entomology Club** is open to those who wish to stimulate interest in the field of entomology, perform outreach programs for the public and to promote and encourage professional exchange of ideas in the field of entomology.

**Minorities in Agriculture, Natural Resources Related Sciences (MANRRS):** The purpose of this organization is to promote and implement initiatives which foster inclusion and advancement of members of ethnic/cultural groups under-represented in the agricultural and natural sciences and related fields in all phases of career preparation and participation.

**Block and Bridle Club** is for students who are interested in any phase of animal science. Students with interests in horses, cattle, sheep, dogs, cats, or swine will find this club a good place to become involved.

**Plant Pathology Graduate Student Association (PPGSA)** is an organization open to graduate students interested in plant pathology or related fields.

**Poultry Science Club** is open to all students interested in any phase of the poultry industry or related fields.

**Pre-Vet Club** is for students interested in veterinary medicine and is especially designed for those students in the pre-veterinary medicine curriculum.

**Professional Convention Management Association** is for students who are interested in the food and beverage, hotel operations and tourism aspects of the hospitality industry.

**Student Dietetic Association (SDA)** is an organization for students who are interested in the profession of dietetics. The goals are to promote growth in professional attitudes and to provide various programs of interest to the members.

**Turf Club** is a student organization open to all students interested in turfgrass management.

**There are also numerous general organizations on the university campus, and students of the Dale Bumpers College of Agricultural, Food and Life Sciences participate in most of them. These include fraternities, sororities, honor and scholarship organizations, religious and music groups, sports organizations, and others.**

**Alpha Tau Alpha** is a national honorary professional fraternity for those preparing to become teachers of agricultural education. Its mission is to develop a true professional spirit in the teaching of agriculture, to help train teachers of agriculture who shall be leaders in their communities, and to foster a fraternal spirit among students in teacher training in agricultural education.

**Alpha Zeta** is the professional honor fraternity for students of agriculture. To be invited to become a member, a student must rank in the upper two-fifths of the class and be recognized for leadership and character.

**Eta Sigma Delta** is the professional honor society for those students studying within the Hospitality Innovation concentration in the School of Human Environmental Sciences.

**Gamma Sigma Delta** is the honor fraternity for graduating seniors, graduate students, faculty, and alumni of the Dale Bumpers College of Agricultural, Food and Life Sciences. Seniors must rank in the upper 25 percent of their class to be eligible for membership, but not more than 15 percent of the class may be elected for membership. The highest-ranking sophomore and the highest-ranking senior are recognized annually by the society.

**Phi Upsilon Omicron** is the professional honor society for human environmental sciences students. To be eligible for invitation to membership, a student must rank in the upper 35 percent of the class and be recognized for character and leadership.

## Academic Advising

Bumpers College advising mission is to enhance the educational experience and maximize opportunities for students. Therefore, we are committed to a strong, effective academic advising program. Advising plays a significant role in the total process of educating students for lifelong learning. The adviser assists students with the development and implementation of their educational plans.

Research demonstrates that the more contact students have with faculty, the more likely they are to persist and complete their educational goals in a timely manner. The Bumpers College adviser serves as a facilitator to assist students in maximizing their education potential. The advising relationship is a partnership between the student and the Bumpers College adviser that is dependent on effective communication and regular contact.

## Selection of a Major

A student who elects to major in some area of study in the college should plan the program with a Bumpers College adviser. While undecided students are welcome, early selection of a major will permit better planning and proper sequencing of courses. The student and Bumpers College adviser work closely to ensure that curriculum requirements are met in a timely fashion. A student uncertain about a major will be advised as an undeclared major through the Bumpers College dean's office (AFLS E108).

## Degrees Offered

All entering students (including freshmen, international and transfer students) admitted to the University of Arkansas, Fayetteville, are eligible to pursue a degree program in the Dale Bumpers College of Agricultural, Food and Life Sciences. Undergraduate degrees offered are as follows:

- The Bachelor of Science in Agricultural, Food and Life Sciences (B.S.A.)
- The Bachelor of Science in Human Environmental Sciences (B.S.H.E.S.)

## Graduate Studies

The Graduate School of the university, in cooperation with the Dale Bumpers College of Agricultural, Food and Life Sciences, offers the Master of Science degree in each of its nine departments and in the School of Human Environmental Sciences. Six doctoral degrees are offered. More detailed information regarding individual programs may be obtained by contacting the administrative office of each department, or by consulting the Graduate School Catalog.

## Accreditations

The Bachelor of Science in Human Environmental Sciences (B.S.H.E.S.) degree programs are accredited by the Council for Professional Development of the American Association of Family and Consumer Sciences. The degree program in nutrition is accredited by the Accreditation Council for Education in Nutrition and Dietetics of the Academy of Nutrition and Dietetics. The Jean Tyson Child Development Study Center is accredited by the National Association for the Education of Young Children (NAEYC). The Bachelor of Science in Agricultural, Food and Life Sciences (B.S.A.) in food science is accredited by the Institute of Food Technologists. Teacher education programs in agriculture and family and consumer sciences are coordinated with educational programs in the College of Education and Health Professions and are accredited by the National Council for Accreditation of Teacher Education (NCATE).

## Study Abroad

An educational experience outside the U.S. has become an integral component for today's student in higher education. The ability to compete and perform in the global arena requires an understanding of world cultures, economic systems, religions, trends, governments and politics. Students in the Bumpers College are encouraged to engage in study abroad that will lead to life-long partnerships, cultural awareness and

understanding of the global dimensions of their majors. The college years provide the best opportunity for students to gain this understanding and experience through faculty-led study tours; summer, semester or year-long study abroad; and international internships or research experiences which closely relate to their career goals.

The mission of the International Programs Office is to provide structured international experiences that enhance the marketability of students for career and academic opportunities through faculty driven, sustainable initiatives. The IPO serves to support faculty, students, international partners, and university leadership to increase opportunities for students to engage in faculty-led programs, internships, exchange programs, and study abroad activities that include research. The IPO works closely with the UA Study Abroad Office and seeks opportunities for students to engage in international career preparation and workforce ready development. The IPO provides \$65,000 annually to support students and faculty. In 2016, 80 Bumpers College students studied abroad. For more information, visit our website at [bumpersinternational.uark.edu](http://bumpersinternational.uark.edu).

Graduate opportunities are available for study in agricultural economics, agribusiness and related subjects via the UA's TransAtlantic Master of Science program at Ghent University, Belgium. Second language capability is helpful, but not required.

Bumpers students interested in a study abroad program or internships with full-time status usually can maintain their scholarships while abroad. Limited funding is available for travel grants through Bumpers and Honors colleges.

## College Admission Requirements

All students seeking admission to the Dale Bumpers College of Agricultural, Food and Life Sciences must meet the general requirements for admission to the university. Students transferring from other colleges at the University of Arkansas or from other institutions are expected to meet the same entrance standard.

## College Academic Requirements

### All students must satisfy the following university graduation requirements

1. Complete a minimum of 120 semester hours.
2. Fulfill University Core Requirements of 35 hours. Go to the University Core (p. 81) for a list of courses that meet the requirements. Check requirements for each major as some majors require specific core courses as prerequisites to upper level courses.
3. Earn a grade-point average of 2.00 ("C" average) on all work attempted at the University of Arkansas.
4. All students must meet the university enrollment requirements found on the Academic Regulations (p. 75) page.

## Specific Degree Requirements

1. To fulfill the residency requirements of the degree of Bachelor of Science in Agricultural, Food and Life Sciences, students must complete a minimum of 36 hours of courses at the 3000-level or above. In addition, a minimum of 9 hours of broadening electives (Bumpers College courses taken outside the departmental code) must be completed.
2. To fulfill the residency requirements of the degree of Bachelor of Science in Human Environmental Sciences, students must complete a minimum of 30 hours within the School of Human Environmental Sciences at the University of Arkansas.

3. In addition to university requirements students must meet other defined degree requirements specific to each major and concentration. Bumpers College courses outside of the major may be included in degree requirements.
4. General electives will vary by major. Electives may be selected to meet the requirements for a minor; however, all elective credits are subject to approval of the academic adviser.

## Rules Applying to Course Work Used for Degree Credit

1. No credit will be given for duplicate coursework.
2. A maximum of six hours of internship and six hours of special problems may be counted for degree credit.
3. A total of six semester hours of elective credits in university band, chorus, judging teams, drama, debate, physical education, etc., may be counted toward a degree.
4. Any self-paced online (correspondence) course taken must be approved in advance in the dean's office if the credits earned in the course are to be applied toward a degree. This rule applies regardless of the school from which the course is taken. Responsibility to secure approval is the student's.
5. All transfer course work to be applied toward the degree must be an approved course listed in the transfer equivalency guide maintained by the Registrar's office. For courses not listed in the guide, petitions can be submitted to the Dean's office by the student and his or her academic adviser.
6. All study abroad courses must be approved in advance in the student's academic department and by the Study Abroad Office if the credits earned in the courses are to be applied toward a degree.
7. Former students of the college who are readmitted after an absence of one year may be expected to meet the curriculum requirements in effect at the time of their readmission. Students should consult their academic adviser for degree planning before registering for classes.
8. Students interested in earning an additional bachelor's degree should refer to the university requirements (p. 75).

## Honors and Scholars

After the end of each semester, all colleges and schools in the university publish an honor roll of the names of the undergraduate students who achieve a 3.75 to 4.00 grade-point average. Students are eligible for the honor roll if they are carrying at least 12 semester hours normally required for graduation by their college for their respective year. This honor roll is the Dean's List.

In addition, a Chancellor's List is published each semester to recognize those undergraduate students who achieve a 4.00 grade-point average. Students must also be carrying at least 12 semester hours normally required for graduation to be eligible for the chancellor's list.

## Requirements to Graduate with Honors

Students who have demonstrated exceptional academic performance in baccalaureate degree while completing the Honors Program in the Bumpers College will be recognized at graduation by the honors designations of *cum laude*, *magna cum laude*, or *summa cum laude*. To earn such designation, students must meet the following criteria:

1. Must have completed at least one-half of his or her degree work at the University of Arkansas.
2. Must have at least a 3.5 GPA on University of Arkansas course work, computed at graduation.

3. Must successfully complete the Bumpers College Honors Program, which includes a minimum of 9 hours of honors course work, 6 hours of honors thesis, and a completed honors capstone research or creative project culminating in a written thesis documenting the project.
4. For *cum laude*, the student must achieve a cumulative U of A GPA of 3.5 to 3.74.
5. For *magna cum laude*, the student must achieve a cumulative U of A GPA of 3.75 to 3.89.
6. For *summa cum laude*, the student must achieve a cumulative U of A GPA of 3.9 to 4.00.

These criteria may be evaluated and changed periodically by the College of Agricultural, Food and Life Sciences.

### Requirements to Graduate with Distinction

Students who have not completed the Bumpers College Honors Program, but have demonstrated excellent academic performance in baccalaureate degree programs in the Bumpers College will be recognized at graduation by the designation of “with distinction,” “with high distinction,” and “with highest distinction.” To earn this designation, students must meet the following criteria:

1. Must have completed at least one-half of his or her degree work at the University of Arkansas.
2. Must have at least a 3.5 GPA on University of Arkansas course work, computed at graduation.
3. For “with distinction,” the student must achieve a cumulative U of A GPA of 3.5 to 3.74.
4. For “with high distinction,” the student must achieve a cumulative U of A GPA of 3.75 to 3.89.
5. For “with highest distinction,” the student must achieve a cumulative U of A GPA of 3.9 to 4.00.

These criteria may be evaluated and changed periodically by the College of Agricultural, Food and Life Sciences.

### Grading System

The Dale Bumpers College of Agricultural, Food and Life Sciences utilizes a plus/minus grading system that assigns numerical values to 12 different grades. These values are used for courses when grade-point averages are calculated.

The 12-step grading system with assigned values is as follows:

Grade	Value
A	4.00
A-	3.67
B+	3.33
B	3.00
B-	2.67
C+	2.33
C	2.00
C-	1.67
D+	1.33
D	1.00
D-	0.67
F	0.00

### Office of the Dean of the College

E-108 Agricultural, Food and Life Sciences Building, 479-575-2252

#### Interim Dean

Lona J. Robertson

#### Interim Associate Dean

Michael R. Evans

#### Assistant Dean for Student Programs

Leslie D. Edgar

#### Director of Advising and Student Records

Kaaron "Jody" Davis

#### Retention and Curriculum Coordinator

Vicky L. Watkins

#### Associate Director of Scholarships

Kaitlin Q. Gragnano

#### Coordinator of Undergraduate Student Recruitment

Michelle L. Pribbernow

#### Director of Employer Relations

Donna K. Graham

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### Majors, Concentrations, and Minors Agricultural, Food and Life Sciences

#### B.S.A. Degree

#### Majors and Concentrations

- Agricultural Business (p. 96) (AGBS)
  - Agricultural Business Management and Marketing (ABMM)
  - Agricultural Economics (AGEC)
  - Pre-Law (PRLW)
- Agricultural Education, Communication and Technology (p. 104) (AECT)
  - Agricultural Communications (ACOM)
  - Agricultural Education (AGED)
  - Agricultural Leadership (AGLE)
  - Agricultural Systems Technology Management (ASTM)
- Animal Science (p. 114) (ANSC)
  - Animal Science (ANSC)
  - Equine (EQSC)
  - Pre-Professional Science (PPRF)
- Crop Science (p. 122) (CPSC)
- Environmental, Soil, and Water Science (p. 126) (ESWS)
- Food Science (p. 130) (FDSC)
  - Food Science (FDSC)
  - Food Technology (FDTN)

- Food and Culinary Sciences (FDCU)
- Horticulture, Landscape and Turf Sciences (p. 138) (HLTS)
- Poultry Science (p. 143) (POSC)

## Minors Offered

- Agricultural Business (AGBS-M)
- Agricultural Communications (ACOM-M)
- Agricultural Education (AGED-M)
- Agricultural Leadership (AGLE-M)
- Agricultural Systems Technology Management (ASTM-M)
- Animal Science (ANSC-M)
- Crop Biotechnology (CPBT-M)
- Crop Science (CPSC-M)
- Entomology (ENTO-M)
- Equine Science (EQSC-M)
- Food Science (FDSC-M)
- Horticulture (HORT-M)
- International Economic Development (INDV-M)
- Landscape Horticulture (LHRT-M)
- Natural Resources Management (NRMT-M)
- Pest Management (PMGT-M)
- Plant Pathology (PLPA-M)
- Poultry Science (POSC-M)
- Soil Science (SOIL-M)
- Turf Management (TURF-M)

## School of Human Environmental Sciences

### B.S.H.E.S. Degree

#### Majors and Concentrations

- Apparel Merchandising and Product Development (p. 146) (AMPD)
- Birth Through Kindergarten (BRKD)
- General Human Environmental Sciences (p. 151) (HESC)
- Human Development and Family Sciences (p. 152) (HDFS)
- Human Nutrition and Hospitality Innovation (p. 154) (HNHI)
  - Nutrition and Dietetics (NUTR)
  - General Foods and Nutrition (GFNU)
  - Hospitality Innovation (HOSP)

#### Minors Offered

- General Foods and Nutrition (GFNU-M)
- Human Development and Family Sciences (HDFS-M)

#### Minors in Other Colleges

Students in the Dale Bumpers College of Agricultural, Food and Life Sciences may pursue an academic minor in any other college at the University of Arkansas. These minors usually consist of 15 to 20 hours of course work. For requirements regarding minors, check the catalog under the department offering the minor. Students must notify the Bumpers College Dean's Office (AFLS E108) of their intention to pursue a minor.

#### Special (Non-Degree Seeking) Students

While most students enrolled in the Dale Bumpers College of Agricultural, Food and Life Sciences work toward a degree, students who desire additional education of a specific nature but who do not wish to

fulfill all requirements for a degree may enroll as special students. It is recommended that students declare a minor by the end of their sophomore year.

## Other Programs

### Pre-veterinary Medicine

Because Arkansas does not have a college of veterinary medicine, the Arkansas General Assembly has authorized funds for education in veterinary medicine at out-of-state institutions. The State Board of Higher Education is the designated agent for the State of Arkansas, and the Student Loan Authority is authorized to administer the program. Terms and conditions prescribed by the Student Loan Authority are as follows: the grant will cover only out-of-state tuition, and the student will pay his or her own fees and expenses. Additional information regarding this program can be found at: [www.adhe.edu](http://www.adhe.edu) (<http://www.adhe.edu>)

Contracts have been negotiated with the Board of Control for Southern Regional Education for education in veterinary medicine at Louisiana State University and at Tuskegee University. Arrangements have also been made with the University of Missouri and Oklahoma State University. Under the provisions of the legislation, only citizens of Arkansas are eligible. They must enroll in and complete the pre-veterinary medicine curriculum to satisfy the admission requirements of these colleges of veterinary medicine.

Arkansas Act 881, passed in 2011, established a loan repayment program for Arkansas residents who attend Mississippi State University College of Veterinary Medicine. The loan repayment program will assist Arkansas residents with the repayment of federally funded student loans incurred while attending veterinary school at Mississippi State University. Beginning in April 2012, participants in the program will be required to practice in the state of Arkansas for up to five consecutive years with a minimum of 30 percent of their practice devoted to food or mixed animal medicine in rural areas of Arkansas. This may include corporate or private veterinary practice.

The pre-veterinary medicine program at the University of Arkansas is administered in the departments of Animal Science and Poultry Science of the Dale Bumpers College of Agricultural, Food and Life Sciences. There are faculty in these departments who help counsel and advise students regarding their pre-veterinary medicine program. There are also faculty veterinarians who provide some insight into the practice of veterinary medicine and are knowledgeable about many of the considerations encountered in establishing a practice upon graduation. Some of these veterinarians have been in private practice; others have been involved in full-time agricultural research since graduation from veterinary medicine and graduate school. Because there is a wide cross-section of experience among these faculty, students find their counsel valuable in planning a future in veterinary medicine.

While it is possible to complete requirements for admission to some colleges of veterinary medicine in two years, most students take three years or more to complete the requirements, and most complete a B.S. degree before being admitted. Students who carefully plan their work may complete a B.S. degree by transferring hours earned in the first two years at an accredited college of veterinary medicine back to the University of Arkansas, provided they complete certain degree requirements at the university prior to entering a school or college of veterinary medicine. These students must complete a minimum of 94 hours of a 124-hour program of prescribed courses. This will require three years and one or two 6-week summer terms for most students. Therefore, students should



inform their advisers early in their program that they wish to be in a pre-vet degree program.

The Bumpers College of Agricultural, Food and Life Sciences is ready to assist students in fulfilling their pre-veterinary medicine requirements whether they desire to complete them in a two-year span or over three or four years. The supporting departments at the university, including chemistry, English, and biological sciences, all offer quality courses that give a student an excellent background for the pursuit of a degree in veterinary medicine.

To earn the professional degree, a student must complete the pre-veterinary medicine requirements and the four-year prescribed curriculum in one of the colleges of veterinary medicine.

**Required Examinations:** All required examinations are given on campus and administered by testing services (97 N. Razorback Road, phone: 479-575-3948, email: [testing@uark.edu](mailto:testing@uark.edu)). Exams must be taken by late summer of the year prior to entering vet school. Students interested in taking examinations should contact testing services to schedule an examination date. All contract schools accept the Graduate Records Exam (GRE), which is given frequently.

**Applications:** Students applying to Louisiana State University, Oklahoma State, Tuskegee University, Mississippi State University and University of Missouri must fill out a Veterinary Medical College Application Service (VMCAS) form, available at their online site ([www.aavmc.org](http://www.aavmc.org) (<http://www.aavmc.org>)). Students must complete the application and have it submitted by September 15th of the year prior to beginning studies. Since requirements for the various veterinary schools periodically change, it is important that students check with their advisers about specific school requirements as they progress through the pre-veterinary requirements.

All students should contact the Coordinator of Veterinary Medicine, Dale Bumpers College of Agricultural, Food, and Life Sciences, AFLS B114, University of Arkansas, Fayetteville, AR 72701, phone 479-575-4351 in the spring prior to making fall application for admission to a veterinary school to verify that they can complete the requirements for the school they wish to attend. Pre-professional requirements and specific requirements for admission to colleges of veterinary medicine at Louisiana State University, Oklahoma State University, University of Missouri, Mississippi State University and Tuskegee University are listed with information on the Web at [www.aavmc.org](http://www.aavmc.org).

## Bumpers College Honors Program

The Bumpers College Honors Program provides students with opportunities to participate in academic, research and creative activities beyond the traditional undergraduate experience. This is accomplished through honors courses, completion of an undergraduate honors thesis, and other significant activities. Students must maintain a GPA of 3.50 and subscribe to the Statement of Ethical Standards to remain in the program.

### Statement of Ethical Standards:

"As a member of the Bumpers College Honors Program, I pledge to uphold the ethical standards of honesty and trustworthiness in all academic and research/creative activities. I recognize that it is a privilege to be a member of the University of Arkansas Honors College and will dedicate my efforts to ensure that the highest levels of ethical standards are maintained."

### Student Eligibility Requirements

There are several avenues by which qualified candidates can become eligible to participate in the Bumpers College Honors Program. Students will receive an invitation to participate in the Honors Program if they are incoming freshmen with an ACT of at least 28 or a high school GPA of at least 3.50. Transfer students will be invited if they transfer no more than 62 hours with a college GPA of at least 3.50. Currently enrolled freshman and sophomore students who have completed less than 62 hours with a college GPA of 3.50 or greater may apply for admission to the Honors Program through the Honors College website (<http://honorscollege.uark.edu>). Students wishing to join the Honors Program after completing 62 hours of college credit may petition for admission by submitting a plan of study to the Bumpers College Honors Program Director documenting how they propose to incorporate the Honors Program requirements into their remaining degree requirements.

To be eligible for continued participation in the Honors Program, students must maintain a cumulative 3.5 GPA and actively work toward earning an Honors degree designation. Students will be considered academically ineligible when:

- A student's cumulative GPA is below 3.5 for two consecutive terms or
- A student's cumulative GPA is below 3.0 for one term.

Students are required to prepare a proposal for study and identify an honors mentor who mutually agrees to the topic proposed by the end of 80 hours of course credit completion.

### Honors Orientation

All entering freshman honors students are required to complete AFLS 1023H. This course will cover the requirements of UNIV 1001 and provides an overview of the Bumpers College Honors Program, program requirements, research and creative project requirements, and to introduce all honors students to potential undergraduate student mentors as a part of the Honors Mentor/Mentee program.

### Honors Curriculum

Graduation with Honors Distinction from the College requires that each student must complete 15 credit hours in the Honors Program. Each student must complete at least 9 credit hours of Honors courses and at least 3 credit hours of thesis hours with a faculty mentor on the student's honors committee and thesis culminating their program. In addition to honors courses taken within Bumpers College, students are also encouraged to take Honors courses in other colleges as well.

Students are encouraged to complete 6 credit hours of Honors courses during their freshman year. This will qualify students for research and international program funding from the Honors College.

### Honors Project

All honor students are required to develop and complete an honors thesis or creative project appropriate for their degree and interests to graduate from the Honors Program. Traditional research projects, such as laboratory and field studies and surveys are encouraged and welcomed in addition to novel methods of research that may be accomplished at sites other than on campus or on research stations. Creative projects are also allowed with the approval of the student's Honors Committee and a final written document is required. The thesis or creative project should consist of at least one semester of proposal preparation, one semester of data collection or creative design, and one semester of thesis preparation. Honors students are encouraged to develop proposals for funding of their projects, as well as to conduct and present their results.

The student's Honors Mentor and Honors Committee prior to graduation from the Honors Program will approve the honors thesis or creative project. Upon approval and graduation, an original copy of the honors document will be submitted to the University Library. Publication of the thesis in an appropriate venue is encouraged. Creative and research thesis project guidelines are available on the Bumpers College Honors Program website (<http://bumpershonors.uark.edu>).

To support their research or creative projects, participants in the Honors Program are eligible to apply for undergraduate research grants from the Arkansas Student Undergraduate Research Fellowships (SURF) program awarded by the state, the University Honors College, and from the Bumpers College. The results of the student's original research or creative project can be published in *Discovery*, the undergraduate research journal of the Bumpers College or *Inquiry: The University Journal of Undergraduate Research and Creative Activity*. Honors students can also apply to the Honors College for Study Abroad and conference grants and to the Bumpers College Study Abroad program. Students who have fulfilled the requirements of the Bumpers College Honors Program will be recognized as graduating with Honors Program Distinction. The transcript and diploma will designate the student as an honors program graduate of the college. At the college commencement ceremony, each honors graduate will wear special regalia, have the title of his or her honors thesis and mentor's name listed in the graduation program, and be recognized separately as part of the Bumpers College Honors Program graduates.

#### Honors Graduation

Honors students enrolled in the Honors Program will be expected to perform at very high levels of achievement, earning credentials beyond the classroom experiences. Therefore, they will be eligible for several privileges during commencement not accorded to other students in the College.

Bumpers College honors students will graduate as a body and as members of the Honors Program at the College Commencement each spring. Separate regalia consisting of appropriate honors hood, stole, braid, tassel, and/or mortarboard will distinguish all students in the Honors Program. Students graduating from the Honors Program will be further distinguished from students receiving traditional College and University recognition of scholastic achievement (distinction, high distinction, or highest distinction) by graduating cum Laude with Honors Distinction, Magna cum Laude with Honors Distinction, or Summa cum Laude with Honors Distinction if cumulative grade point averages of 3.5 to 3.74, 3.75 to 3.89, or above 3.9 are maintained, respectively.

Incentives for student participation in the Honors Program include:

- Transcripts of honors students will specify that they are graduates of the College Honors Program.
- Honors students may request project support by applying for a grant from Bumpers College Undergraduate Research and Creative Project Grant Program.
- Honors students have the benefit of working one-on-one with faculty members on research or creative projects.
- Honors students will be eligible to apply for competitive scholarships supporting undergraduate honors studies or research (i.e., SURF grants).
- Honors students will receive all other rights and privileges as outlined in the Honors College benefits.

## Agricultural Economics and Agribusiness (AEAB) Faculty

**Bruce L. Ahrendsen**, Professor  
**Kelly J. Bryant**, Extension Associate Professor  
**Mark J. Cochran**, Professor  
**Bruce Lawrence Dixon**, Professor  
**Alvaro Durand-Morat**, Adjunct Assistant Professor  
**Di Fang**, Assistant Professor  
**Archie Flanders**, Extension Associate Professor  
**Harold L. Goodwin Jr.**, Professor  
**Steve A. Halbrook**, Professor  
**Quiqiong Huang**, Associate Professor  
**Nathan Kemper**, Instructor  
**Kent F. Kovacs**, Assistant Professor  
**Jeff A. Luckstead**, Assistant Professor  
**Andrew Malcolm McKenzie**, Professor  
**Wayne P. Miller**, Extension Professor  
**Lawton Lanier Nalley**, Associate Professor  
**Rudy Nayga**, Professor, Tyson Endowed Chair in Food Policy Economics  
**Jennie Sheerin Popp**, Professor  
**Michael P. Popp**, Professor  
**Daniel V. Rainey**, Associate Professor  
**Ronald L. Rainey**, Professor  
**Elizabeth Rebecca Rumley**, Research Assistant Professor  
**Rusty W. Rumley**, Research Assistant Professor  
**Hannah E. Shear**, Instructor  
**Michael R. Thomsen**, Professor  
**Eric J. Wailles**, Distinguished Professor, L.C. Carter Endowed Chair in Rice and Soybeans  
**Kenton Bradley Watkins**, Professor

Steve A. Halbrook  
 Head of the Department  
 217 Agriculture Building  
 479-575-2256  
<http://agribus.uark.edu/>

The Department of Agricultural Economics and Agribusiness offers a major with three concentrations that lead to a Bachelor of Science in Agriculture degree. The department also offers a minor in Agricultural Business.

The agricultural business major provides education suited to career opportunities in farm management, agricultural business management, and agricultural marketing in both the domestic and international areas.

Managers of farms and agricultural businesses are continually required to make organizational and operational decisions. The basic skills and knowledge needed for making sound decisions are provided by the agricultural business curriculum. Students may elect to specialize in areas compatible with their personal objectives, depending upon the extent of accounting and business orientation desired.

Students educated in agricultural business are in demand for positions in agricultural industries, farm operation, marketing agencies, agricultural service organizations, state and federal agencies, and numerous other positions. For those who go on to graduate school, teaching and research positions are available with land grant colleges as well as with other institutions. Three concentrations are available to meet career objectives:

1. Agricultural Business Management and Marketing (ABMM)
2. Pre-Law, for students preparing to attend law school (PRLW)
3. Agricultural Economics, which emphasizes quantitative and analytical skills to prepare students for graduate school (AGEC).

## Requirements for a Major in Agricultural Business (AGBS)

State minimum core and discipline specific general education requirements:

(Course work that meets state minimum core requirements is in bold.)

### Communications 6-12

Select English Core Courses (6 hours unless exempt)

COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)

Select one of the following:

AGED 3143 Communicating Agriculture to the Public (Sp, Su, Fa)

AGED 4003 Issues in Agriculture (Fa)

AGED 4343 Communication Campaigns in Agriculture (Odd years, Sp)

COMM 2303 Advanced Public Speaking (Sp, Su, Fa)

COMM 2323 Interpersonal Communication (Sp, Su, Fa)

COMM 2343 Introduction to Small-Group Communication (Sp, Su, Fa)

COMM 3383 Persuasion (Sp, Su, Fa)

CSES 3023 Crop, Soil, and Environmental Sciences Colloquium (Fa)

ENGL 2003 Advanced Composition (Sp, Su, Fa)

ENGL 2013 Essay Writing (Sp, Su)

ENGL 3053 Technical and Report Writing (ACTS Equivalency = ENGL 2023) (Sp, Fa)

### U.S. History or Government 3

Select U.S. History or Government Core Course

### Mathematics 3

MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) (or higher MATH course from the University Core excluding MATH 2183)

### Science 8

Select 2 Science Courses from University Core (8 total hours)

### Fine Arts and Humanities 6-7

Select Fine Arts and Humanities Core Courses

### Social Sciences (9 hours) 9

Select one of the following:

PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)

SOCI 2013 General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa)

HESC 2603 Rural Families and Communities (Sp)

Select one of the following:

AGEC 1103 Principles of Agricultural Microeconomics (Sp, Su, Fa)

ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)

Select one of the following:

AGEC 2103 Principles of Agricultural Macroeconomics (Sp, Fa)

ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)

### AEAB Requirements 33

AGEC 2142 Agribusiness Financial Records (Sp, Fa) & AGECE 2141L and Agribusiness Financial Records Lab (Sp, Fa) or ACCT 201 Accounting Principles (Sp, Su, Fa)

AGEC 2303 Introduction to Agribusiness (Sp, Su, Fa)

AGEC 3303 Food and Agricultural Marketing (Sp, Su, Fa)

AGEC 3403 Farm Business Management (Sp, Fa)

AGEC 3503 Agricultural Law I (Fa)

Select two of the following:

AGEC 3413 Principles of Environmental Economics (Sp)

AGEC 4163 Agricultural and Rural Development (Fa)

AGEC 4613 Political Economy of Agriculture and Food (Fa)

AGEC 4623 International Agricultural Trade and Commercial Policy (Sp)

Select two of the following:

AGEC 3313 Agribusiness Sales (Sp)

AGEC 3373 Futures and Options Markets (Fa)

AGEC 4113 Agricultural Prices and Forecasting (Sp)

AGEC 4303 Advanced Agricultural Marketing Management (Sp)

AGEC 4373 Basis Trading: Applied Price Risk Management (Sp, Su)

Select two of the following:

AGEC 4143 Agricultural Finance (Fa)

AGEC 4313 Agricultural Business Management (Fa)

AGEC 4323 AgriBusiness Entrepreneurship (Sp)

AGEC 4403 Advanced Farm Business Management (Fa)

## Additional Requirements for Agribusiness Management and Marketing Concentration (45-52):

### Statistics 3

Select one of the following:

AGEC 2403 Quantitative Tools for Agribusiness (Fa)

WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa)

### Agribusiness Management and Marketing Concentration 18

Select two of the following unless used to meet Departmental Core hours:

AGEC 3313 Agribusiness Sales (Sp)

AGEC 3373 Futures and Options Markets (Fa)

AGEC 3413 Principles of Environmental Economics (Sp)

AGEC 4113 Agricultural Prices and Forecasting (Sp)

AGEC 4143 Agricultural Finance (Fa)

AGEC 4163 Agricultural and Rural Development (Fa)

AGEC 4303 Advanced Agricultural Marketing Management (Sp)

AGEC 4313 Agricultural Business Management (Fa)

AGEC 4323 AgriBusiness Entrepreneurship (Sp)

AGEC 4373 Basis Trading: Applied Price Risk Management (Sp, Su)

AGEC 4403 Advanced Farm Business Management (Fa)

AGEC 4613	Political Economy of Agriculture and Food (Fa)	
AGEC 4623	International Agricultural Trade and Commercial Policy (Sp)	
Choose 12 hours from MATH, STAT, AGECE or courses in WCOB or the Bumpers College.		
<b>General Electives</b> <sup>1</sup>		24-31
<b>Total hours</b>		120

<sup>1</sup> New Freshmen will enroll in UNIV 1001 for 1 hour of general elective credit.

## Agricultural Business B.S.A. with Management and Marketing Concentration

### Eight-Semester Degree Program

Students wishing to follow the degree plan in Agricultural Economics and Agribusiness should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program. The Agricultural Economics and Agribusiness major has three concentrations: Agricultural Business Management and Marketing, Pre-Law, and Agricultural Economics.

	First Year		Units
	Fall	Spring	
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa) (Unless Exempt)	3		
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) (or higher math from the University Core excluding MATH 2183)	3		
History Core from:	3		
HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)			
HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)			
PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)			
AGEC 1103 Principles of Agricultural Microeconomics (Sp, Su, Fa) or ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)	3		
AGME 2903 Agricultural and Human Environmental Sciences Applications of Microcomputers (Sp, Su, Fa) (or ISYS 1120) or Bumpers College Broadening Elective (if ISYS 1120)	3		
UNIV 1001 University Perspectives (Sp, Su, Fa)	1		
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa) (Unless Exempt)		3	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)		3	
AGEC 2103 Principles of Agricultural Macroeconomics (Sp, Fa)		3	
AGEC 2303 Introduction to Agribusiness (Sp, Su, Fa)		3	

General Electives		3
<b>Year Total:</b>	16	15

	Second Year		Units
	Fall	Spring	
AGEC 2403 Quantitative Tools for Agribusiness (Fa) or WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa)	3		
Fine Arts/Humanities University Core Elective		3	
Science University Core Elective		4	
AGEC 2142 Agribusiness Financial Records (Sp, Fa) & AGECE 2141L Agribusiness Financial Records Lab (Sp, Fa) or ACCT 2013 Accounting Principles (Sp, Su, Fa)	3		
General Elective		3	
Select one of the following:			3
PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)			
HESC 2603 Rural Families and Communities (Sp)			
SOC1 2013 General Sociology (ACTS Equivalency = SOC1 1013) (Sp, Su, Fa)			
Science University Core Elective			4
AGEC 3303 Food and Agricultural Marketing (Sp, Su, Fa)			3
Communication Intensive Elective			3
General Elective			2
<b>Year Total:</b>	16	15	

	Third Year		Units
	Fall	Spring	
AGEC 3373 Futures and Options Markets (Fa)	3		
AGEC 3403 Farm Business Management (Sp, Fa)	3		
AGEC 4143 Agricultural Finance (Fa)	3		
Specialization Elective	3		
General Elective	3		
Fine Arts/Humanities University Core Elective			3
Select one of the following:			3
AGEC 3413 Principles of Environmental Economics (Sp)			
AGEC 4623 International Agricultural Trade and Commercial Policy (Sp)			
Specialization Electives			6
General Electives			3
<b>Year Total:</b>	15	15	

	Fourth Year		Units
	Fall	Spring	
Select one of the following:	3		
AGEC 4163 Agricultural and Rural Development (Fa)			

AGEC 4613 Political Economy of Agriculture and Food (Fa)		
AGEC 3503 Agricultural Law I (Fa)	3	
Specialization Elective	6	
General Elective	3	
AGEC 4323 AgriBusiness Entrepreneurship (Sp)		3
Select one of the following:		3
AGEC 4113 Agricultural Prices and Forecasting (Sp)		
AGEC 4303 Advanced Agricultural Marketing Management (Sp)		
Specialization Elective		3
General Elective		4
Year Total:	15	13
<hr/>		
Total Units in Sequence:		120

## Requirements for a Major in Agricultural Business (AGBS)

State minimum core and discipline specific general education requirements:

(Course work that meets state minimum core requirements is in bold.)

<b>Communications</b>		6-12
Select English Core Courses (6 hours unless exempt)		
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)		
Select one of the following:		
AGED 3143 Communicating Agriculture to the Public (Sp, Su, Fa)		
AGED 4003 Issues in Agriculture (Fa)		
AGED 4343 Communication Campaigns in Agriculture (Odd years, Sp)		
COMM 2303 Advanced Public Speaking (Sp, Su, Fa)		
COMM 2323 Interpersonal Communication (Sp, Su, Fa)		
COMM 2343 Introduction to Small-Group Communication (Sp, Su, Fa)		
COMM 3383 Persuasion (Sp, Su, Fa)		
CSES 3023 Crop, Soil, and Environmental Sciences Colloquium (Fa)		
ENGL 2003 Advanced Composition (Sp, Su, Fa)		
ENGL 2013 Essay Writing (Sp, Su)		
ENGL 3053 Technical and Report Writing (ACTS Equivalency = ENGL 2023) (Sp, Fa)		
<b>U.S. History or Government</b>		3
Select U.S. History or Government Core Course		
<b>Mathematics</b>		3
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) (or higher MATH course from the University Core excluding MATH 2183)		
<b>Science</b>		8
Select 2 Science Courses from University Core (8 total hours)		
<b>Fine Arts and Humanities</b>		6-7
Select Fine Arts and Humanities Core Courses		

## Social Sciences (9 hours) 9

Select one of the following:

PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)

SOCI 2013 General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa)

HESC 2603 Rural Families and Communities (Sp)

Select one of the following:

AGEC 1103 Principles of Agricultural Microeconomics (Sp, Su, Fa)

ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)

Select one of the following:

AGEC 2103 Principles of Agricultural Macroeconomics (Sp, Fa)

ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)

## AEAB Requirements 33

AGEC 2142 Agribusiness Financial Records (Sp, Fa) & AGEC 2141L and Agribusiness Financial Records Lab (Sp, Fa) or ACCT 201 Accounting Principles (Sp, Su, Fa)

AGEC 2303 Introduction to Agribusiness (Sp, Su, Fa)

AGEC 3303 Food and Agricultural Marketing (Sp, Su, Fa)

AGEC 3403 Farm Business Management (Sp, Fa)

AGEC 3503 Agricultural Law I (Fa)

Select two of the following:

AGEC 3413 Principles of Environmental Economics (Sp)

AGEC 4163 Agricultural and Rural Development (Fa)

AGEC 4613 Political Economy of Agriculture and Food (Fa)

AGEC 4623 International Agricultural Trade and Commercial Policy (Sp)

Select two of the following:

AGEC 3313 Agribusiness Sales (Sp)

AGEC 3373 Futures and Options Markets (Fa)

AGEC 4113 Agricultural Prices and Forecasting (Sp)

AGEC 4303 Advanced Agricultural Marketing Management (Sp)

AGEC 4373 Basis Trading: Applied Price Risk Management (Sp, Su)

Select two of the following:

AGEC 4143 Agricultural Finance (Fa)

AGEC 4313 Agricultural Business Management (Fa)

AGEC 4323 AgriBusiness Entrepreneurship (Sp)

AGEC 4403 Advanced Farm Business Management (Fa)

## Additional Requirements for Pre-Law Concentration (46-52 hours):

### Statistics 3

Select one from the following:

AGEC 2403 Quantitative Tools for Agribusiness (Fa)

WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa)

### Pre-Law Concentration 18

AGEC 3523 Environmental and Natural Resources Law (Even years, Sp)

Select 15 hours from at least two of the following areas:

Area 1

BLAW 2013	The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa)	
BLAW 3033	Commercial Law (Sp)	
Area 2		
COMM 2303	Advanced Public Speaking (Sp, Su, Fa)	
COMM 3353	Argumentation: Reason in Communication (Fa)	
COMM 3383	Persuasion (Sp, Su, Fa)	
COMM 3443	Introduction to Rhetorical Theory (Fa)	
COMM 4113	Legal Communication (Irregular)	
Area 3		
PHIL 2003	Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)	
PHIL 2103	Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)	
PHIL 2203	Logic (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)	
PHIL 3103	Ethics and the Professions (Sp, Su, Fa)	
PHIL 4143	Philosophy of Law (Irregular)	
Area 4		
PLSC 3103	Public Administration (Sp)	
PLSC 3153	Public Policy (Fa)	
PLSC 3243	The Judicial Process (Fa)	
PLSC 4193	Administrative Law (Sp)	
PLSC 4253	The U.S. Constitution I (Sp)	
PLSC 4263	The U.S. Constitution II (Irregular)	
Area 5		
AGEC	(any upper level)	
<b>General Electives</b> <sup>1</sup>		25-31
<b>Total hours</b>		120

<sup>1</sup> New freshmen will enroll in UNIV 1001 for 1 hour of general elective credit.

### 3/3 Program – Agriculture

Exceptional students in the pre-law concentration in the Dale Bumpers College of Agricultural, Food and Life Sciences may enroll in the School of Law in their fourth year provided that all requirements have been met. Students must have:

- Completed all university, college, and major course requirements for the pre-law concentration;
- Completed 12 hours in the specialization list for pre-law;
- Earned a cumulative GPA of at least 3.50 without grade renewal; and
- Received an LSAT score of at least 159.

A student admitted to this program may substitute School of Law course work for the remaining total hours required for the bachelor's degree in agricultural business.

It is a requirement of the School of Law's accrediting standards that no student be admitted to the School of Law until they have completed at least three-fourths of the work necessary for the baccalaureate degree. The requirements embodied in the 3/3 programs satisfy this requirement.

## Agricultural Business B.S.A. with Pre-Law Concentration

### Eight-Semester Degree Program

Students wishing to follow the degree plan in Agricultural Economics and Agribusiness should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program. The Agricultural Economics and Agribusiness major has three concentrations: Agricultural Business Management and Marketing, Pre-Law, and Agricultural Economics.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) (or higher MATH course from the University Core excluding MATH 2183)		3
History Core from:		3
HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)		
HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)		
PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)		
AGEC 1103 Principles of Agricultural Microeconomics (Sp, Su, Fa) or ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)		3
AGME 2903 Agricultural and Human Environmental Sciences Applications of Microcomputers (Sp, Su, Fa) (or ISYS 1120) or General Elective (if ISYS 1120)		3
UNIV 1001 University Perspectives (Sp, Su, Fa)		1
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)		3
AGEC 2103 Principles of Agricultural Macroeconomics (Sp, Fa) or ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)		3
AGEC 2303 Introduction to Agribusiness (Sp, Su, Fa)		3
General Elective		3
<b>Year Total:</b>	<b>16</b>	<b>15</b>

Second Year	Units	
	Fall	Spring
Communication Intensive Elective	3	
AGEC 2403 Quantitative Tools for Agribusiness (Fa) or WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa)	3	

Fine Arts/Humanities Elective	3	
Science Core Elective	4	
AGEC 2142 Agribusiness Financial Records (Sp, Fa)	3	
& AGECE 2141L Agribusiness Financial Records Lab (Sp, Fa)		
or ACCT 2013 Accounting Principles (Sp, Su, Fa)		
Social Science Core from:	3	
PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)		
HESC 2603 Rural Families and Communities (Sp)		
SOC1 2013 General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa)		
Science Elective	4	
AGEC 3303 Food and Agricultural Marketing (Sp, Su, Fa)	3	
General Elective	6	
Year Total:	16	16

**Third Year**

	Units	
	Fall	Spring
Fine Arts/Humanities Elective	3	
AGEC 3403 Farm Business Management (Sp, Fa)	3	
Select one from the following:	3	
AGEC 4143 Agricultural Finance (Fa)		
AGEC 4313 Agricultural Business Management (Fa)		
AGEC 4403 Advanced Farm Business Management (Fa)		
AGEC 3373 Futures and Options Markets (Fa)	3	
General Elective	3	
AGEC 3413 Principles of Environmental Economics (Sp)		3
or AGECE 4623 International Agricultural Trade and Commercial Policy (Sp)		
AGEC 3523 Environmental and Natural Resources Law (Even years, Sp)		3
Specialization Elective		6
General Elective		3
Year Total:	15	15

**Fourth Year**

	Units	
	Fall	Spring
AGEC 4163 Agricultural and Rural Development (Fa)	3	
or AGECE 4613 Political Economy of Agriculture and Food (Fa)		
AGEC 3503 Agricultural Law I (Fa)	3	
Specialization Course	6	
General Electives	3	
AGEC 4323 AgriBusiness Entrepreneurship (Sp)		3

AGEC 4113 Agricultural Prices and Forecasting (Sp)	3	
or AGECE 4303 Advanced Agricultural Marketing Management (Sp)		
Specialization Elective	3	
General Electives	3	
Year Total:	15	12
Total Units in Sequence:		120

## Requirements for a Major in Agricultural Business (AGBS)

State minimum core and discipline specific general education requirements:

(Course work that meets state minimum core requirements is in bold.)

<b>Communications</b>	6-12
Select English Core Courses (6 hours unless exempt)	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	
Select one of the following:	
AGED 3143 Communicating Agriculture to the Public (Sp, Su, Fa)	
AGED 4003 Issues in Agriculture (Fa)	
AGED 4343 Communication Campaigns in Agriculture (Odd years, Sp)	
COMM 2303 Advanced Public Speaking (Sp, Su, Fa)	
COMM 2323 Interpersonal Communication (Sp, Su, Fa)	
COMM 2343 Introduction to Small-Group Communication (Sp, Su, Fa)	
COMM 3383 Persuasion (Sp, Su, Fa)	
CSES 3023 Crop, Soil, and Environmental Sciences Colloquium (Fa)	
ENGL 2003 Advanced Composition (Sp, Su, Fa)	
ENGL 2013 Essay Writing (Sp, Su)	
ENGL 3053 Technical and Report Writing (ACTS Equivalency = ENGL 2023) (Sp, Fa)	
<b>U.S. History or Government</b>	3
Select U.S. History or Government Core Course	
<b>Mathematics</b>	3
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) (or higher MATH course from the University Core excluding MATH 2183)	
<b>Science</b>	8
Select 2 Science Courses from University Core (8 total hours)	
<b>Fine Arts and Humanities</b>	6-7
Select Fine Arts and Humanities Core Courses	
<b>Social Sciences (9 hours)</b>	9
Select one of the following:	
PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)	
SOC1 2013 General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa)	
HESC 2603 Rural Families and Communities (Sp)	

Select one of the following:

AGEC 1103	Principles of Agricultural Microeconomics (Sp, Su, Fa)
ECON 2023	Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)

Select one of the following:

AGEC 2103	Principles of Agricultural Macroeconomics (Sp, Fa)
ECON 2013	Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)

**AEAB Requirements 33**

AGEC 2142	Agribusiness Financial Records (Sp, Fa) & AGECE 2141L and Agribusiness Financial Records Lab (Sp, Fa) or ACCT 201 Accounting Principles (Sp, Su, Fa)
AGEC 2303	Introduction to Agribusiness (Sp, Su, Fa)
AGEC 3303	Food and Agricultural Marketing (Sp, Su, Fa)
AGEC 3403	Farm Business Management (Sp, Fa)
AGEC 3503	Agricultural Law I (Fa)

Select two of the following:

AGEC 3413	Principles of Environmental Economics (Sp)
AGEC 4163	Agricultural and Rural Development (Fa)
AGEC 4613	Political Economy of Agriculture and Food (Fa)
AGEC 4623	International Agricultural Trade and Commercial Policy (Sp)

Select two of the following:

AGEC 3313	Agribusiness Sales (Sp)
AGEC 3373	Futures and Options Markets (Fa)
AGEC 4113	Agricultural Prices and Forecasting (Sp)
AGEC 4303	Advanced Agricultural Marketing Management (Sp)
AGEC 4373	Basis Trading: Applied Price Risk Management (Sp, Su)

Select two of the following:

AGEC 4143	Agricultural Finance (Fa)
AGEC 4313	Agricultural Business Management (Fa)
AGEC 4323	AgriBusiness Entrepreneurship (Sp)
AGEC 4403	Advanced Farm Business Management (Fa)

**Additional Requirements for Agricultural Economics Concentration (46-52 hours):**

**Math and Statistics 6-7**

MATH 2053	Finite Mathematics (Sp, Su, Fa) (or higher MATH course from the University Core excluding MATH 2183)
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Select one from the following:

AGEC 2403	Quantitative Tools for Agribusiness (Fa)
AGST 4023	Principles of Experimentation (Fa)
WCOB 1033	Data Analysis and Interpretation (Sp, Su, Fa)
STAT 4003	Statistical Methods (Sp, Fa) & STAT 4001L and Statistics Methods Laboratory (Sp, Fa)

**Agricultural Economics Concentration 15**

ECON 3033	Microeconomic Theory (Sp, Su, Fa)
ECON 3133	Macroeconomic Theory (Sp, Fa)

Choose nine hours from MATH or STAT or upper division electives from AGECE or WCOB.

**General Electives<sup>1</sup> 24-31**

**Total hours 120**

<sup>1</sup> New freshmen will enroll in UNIV 1001 for 1 hour of general elective credit.

The approved list of courses, check sheet, and degree program for all concentrations is available in the Agricultural Economics and Agribusiness departmental office.

**Agricultural Business B.S.A. with Agricultural Economics Concentration Eight-Semester Degree Program**

Students wishing to follow the degree plan in Agricultural Economics and Agribusiness should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program. The Agricultural Economics and Agribusiness major has three concentrations: Agricultural Business Management and Marketing, Pre-Law, and Agricultural Economics.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)		3
History Core from:		3
HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)		
HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)		
PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)		
AGEC 1103 Principles of Agricultural Microeconomics (Sp, Su, Fa) or ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)		3
AGME 2903 Agricultural and Human Environmental Sciences Applications of Microcomputers (Sp, Su, Fa) (or General Elective)		3
ISYS 1120 Computer Competency Requirement (Sp, Su, Fa) (if not AGME 2903 Application of Microcomputers)		0
UNIV 1001 University Perspectives (Sp, Su, Fa)		1
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)		3
AGEC 2103 Principles of Agricultural Macroeconomics (Sp, Fa) or ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)		3
AGEC 2303 Introduction to Agribusiness (Sp, Su, Fa)		3
MATH 2053 Finite Mathematics (Sp, Su, Fa)		3
<b>Year Total:</b>	<b>16</b>	<b>15</b>



Second Year	Units	
	Fall	Spring
Select one from:	3	
AGEC 2403 Quantitative Tools for Agribusiness (Fa)		
WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa)		
AGST 4023 Principles of Experimentation (Fa)		
STAT 4003 Statistical Methods (Sp, Fa) (& STAT 4001L)		
Fine Arts/Humanities University Core Elective	3	
General Electives	3	
Science University Core Elective	4	
AGEC 2142 Agribusiness Financial Records (Sp, Fa)	3	
& AGEC 2141L Agribusiness Financial Records Lab (Sp, Fa)		
or ACCT 2013 Accounting Principles (Sp, Su, Fa)		
Social Science core from:		3
PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)		
HESC 2603 Rural Families and Communities (Sp)		
SOC1 2013 General Sociology (ACTS Equivalency = SOC1 1013) (Sp, Su, Fa)		
Science University Core Elective		4
AGEC 3303 Food and Agricultural Marketing (Sp, Su, Fa)		3
General Elective		2
Specialization Elective		3
Year Total:	16	15

Third Year	Units	
	Fall	Spring
Communication Intensive Elective	3	
AGEC 3403 Farm Business Management (Sp, Fa)	3	
AGEC 4143 Agricultural Finance (Fa)	3	
ECON 3033 Microeconomic Theory (Sp, Su, Fa)	3	
AGEC 3373 Futures and Options Markets (Fa)	3	
Fine Arts/Humanities Core Elective		3
ECON 3133 Macroeconomic Theory (Sp, Fa)		3
Select one from:		3
AGEC 4113 Agricultural Prices and Forecasting (Sp)		
AGEC 4323 AgriBusiness Entrepreneurship (Sp)		
AGEC 4373 Basis Trading: Applied Price Risk Management (Sp, Su)		
Specialization Elective		
General Elective		6
Year Total:	15	15

Fourth Year	Units	
	Fall	Spring
AGEC 4613 Political Economy of Agriculture and Food (Fa)	3	
Choose two of the following:	6	
AGEC 4163 Agricultural and Rural Development (Fa)		
AGEC 4313 Agricultural Business Management (Fa)		
Specialization Elective		
AGEC 3503 Agricultural Law I (Fa)	3	
General Electives	3	
Choose two of the following:		6
AGEC 4113 Agricultural Prices and Forecasting (Sp)		
AGEC 4323 AgriBusiness Entrepreneurship (Sp)		
AGEC 4373 Basis Trading: Applied Price Risk Management (Sp, Su)		
Specialization Elective		
General Electives		7
Year Total:	15	13

Total Units in Sequence: 120

### Minor in Agricultural Business (AGBS-M)

The Agricultural Business Minor will consist of 18 semester hours to include:

AGEC 1103	Principles of Agricultural Microeconomics (Sp, Su, Fa)	3
<b>Select one of the following:</b>		3
AGEC 2103	Principles of Agricultural Macroeconomics (Sp, Fa)	
AGEC 2303	Introduction to Agribusiness (Sp, Su, Fa)	
<b>Select two of the following core electives:</b>		6
AGEC 3303	Food and Agricultural Marketing (Sp, Su, Fa)	
AGEC 3313	Agribusiness Sales (Sp)	
AGEC 3373	Futures and Options Markets (Fa)	
AGEC 3403	Farm Business Management (Sp, Fa)	
AGEC 3413	Principles of Environmental Economics (Sp)	
AGEC 4313	Agricultural Business Management (Fa)	
AGEC 4323	AgriBusiness Entrepreneurship (Sp)	
<b>Select six hours from the following controlled electives:</b>		6
Any AGEC course not already used		
ECON 3033	Microeconomic Theory (Sp, Su, Fa)	
ECON 3133	Macroeconomic Theory (Sp, Fa)	
MATH 2043	Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)	
POSC 4213	Integrated Poultry Management Systems (Fa)	

Additional upper-division courses in the Sam M. Walton College of Business may be substituted with approval, provided prerequisites for those courses have been satisfied outside the minor. A minimum of six hours of upper-division AGEC courses without substitution is required for the minor.

A student planning to minor in Agricultural Business should contact the program adviser for consultation and more detailed information.

## Minor in International Economic Development (INDV-M)

### Course Requirements

Successfully complete four of the following five courses:	12
AGEC 4163 Agricultural and Rural Development (Fa)	
AGEC 4623 International Agricultural Trade and Commercial Policy (Sp)	
ECON 3843 Economic Development, Poverty & the Role of the World Bank and IMF in Low-Income Countries (Sp, Fa)	
ECON 3853 Emerging Markets (Fa)	
ECON 4633 International Trade (Sp, Fa)	
Take a minimum of 3 hours of pre-approved study abroad experience	3
<b>Total Hours</b>	<b>15</b>

## Agricultural Education, Communications and Technology (AECT)

### Faculty

**Casandra Kay Cox**, Instructor  
**Don Edgar**, Associate Professor  
**Leslie Dawn Edgar**, Professor  
**Donna Lucas Graham**, Professor  
**Donald M. Johnson**, Professor  
**Jefferson Davis Miller**, Professor  
**Richard L. Poling**, Adjunct Associate Professor  
**Kathryn Jill Rucker**, Assistant Professor  
**Kate Shoulders**, Assistant Professor  
**George W. Wardlow**, Professor

George W. Wardlow  
 Head of the Department  
 205 Agriculture Building  
 479-575-2035  
<http://aect.uark.edu/>

The department of agricultural education, communications and technology offers a degree program with three concentrations that lead to a Bachelor of Science in Agriculture.

- The Agricultural Communications concentration is designed to produce graduates with both technical knowledge about the food and fiber industry and the communication skills needed to convey in an effective manner the story of agriculture to consumers, policy makers, and the public at large. Interpersonal and group communication, public relations, graphic art, video and television production, electronic communication, distance learning, video conferencing, and writing for the media are emphasized in this program.
- The Agricultural Education concentration is designed for students who wish to receive initial teacher licensure to teach agricultural science in public schools.
- The Agricultural Systems Technology Management concentration is for students who are planning a professional career related to technical operations and management in agricultural industry. Graduates assume positions of leadership and responsibility in such

areas as agricultural services and sales, agricultural management, agricultural production systems, product service, product testing, and service management. The program focuses on preparing students as problem solvers in the application, management and/or marketing of agricultural technology.

The department also offers programs for three minors: Agricultural Communications, Agricultural Education, and Agricultural Systems Technology Management.

Students with this major are in constant demand due to the rapidly changing educational needs of the agricultural and natural resources industries. Graduates with this degree have a broad knowledge of agricultural disciplines. They are prepared as agricultural technology transfer specialists to enter a variety of careers in formal and non-formal teaching roles in either the public or private sector as agricultural educators, Extension agents, industry-based trainers, information specialists, or technology-management specialists. Students in agricultural education, communication and technology may choose one of three areas of concentration listed below, or, with adviser's approval, select courses from more than one concentration area.

### Requirements for a Major in Agricultural Education, Communication and Technology (AECT)

State minimum core and discipline specific general education requirements:

(Course work that meets state minimum core requirements is in bold.)

<b>University Perspectives</b>	0-1
UNIV 1001 University Perspectives (Sp, Su, Fa)	
<b>Communications</b>	3-9
Select English Core Courses (6 hours unless exempt)	
AGED 3143 Communicating Agriculture to the Public (Sp, Su, Fa)	
<b>U.S. History or Government</b>	3
Select U.S. History or Government Core Courses	
<b>Mathematics</b>	3
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (or higher excluding MATH 1313)	
<b>Science</b>	15
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL & BIOL 1541L 1014 Lecture) (Sp, Su, Fa) and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	
BIOL 2013 General Microbiology (ACTS Equivalency = BIOL & BIOL 2011L 2004 Lecture) (Sp, Su, Fa) and General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa) or PHYS 104 Physics for Architects I (Fa)	
CHEM 1073 Fundamentals of Chemistry (ACTS Equivalency = & CHEM 1071LCHEM 1214 Lecture) (Su, Fa) and Fundamentals of Chemistry Laboratory (ACTS Equivalency = CHEM 1214 Lab) (Fa)	
Science Elective for AGED Concentration (3 hours)	
Science or Math Elective for ASTM, ACOM and AGLE Concentrations (3 hours)	

**Fine Arts/Humanities** 6

Choose from Fine Arts and Humanities Core Courses (6 hours) for ASTM, ACOM and AGLE Concentrations

For AGED concentration, select FNAR Core (3 hours from Category A)

WLIT 1113 World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)

or WLIT 1123 World Literature II (ACTS Equivalency = ENGL 2123) (Sp, Su, Fa)

**Social Science** 9

Choose Social Science Core Courses (3 hours)

AGED 1103 Principles of Agricultural Microeconomics (Sp, Su, Fa)

or AGEC 211 Principles of Agricultural Macroeconomics (Sp, Fa)

PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)

**AECT Requirements** 23

AGED 4003 Issues in Agriculture (Fa)

AGME 1613 Fundamentals of Agricultural Systems Technology & AGME 1611L (Fa)  
and Fundamentals of Agricultural Systems Technology Laboratory (Fa)

AGME 2903 Agricultural and Human Environmental Sciences Applications of Microcomputers (Sp, Su, Fa)

ANSC 1032 Introductory Animal Sciences (Sp, Fa)

ANSC 1051 Introduction to the Livestock Industry (Sp, Fa)

CSES 1203 Introduction to Plant Sciences (Sp, Fa)

CSES 2013 Pest Management (Sp)

CSES 2203 Soil Science (Sp, Fa)

CSES 2201L Soil Science Laboratory (Sp, Fa) (or 1 hour of CSES 355V)

or CSES 355V Soil Profile Description (Fa)

**Additional Requirements for ACOM Concentration (39 hours)****ACOM Requirements** 39

AGED 2143 Introduction to Agricultural Communications (Fa)

COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)

AGED 3153 Leadership Development in Agriculture (Sp)

AGED 3243 Ag Reporting and Feature Writing (Odd years, Fa)

AGED 3943 Professional Development in Agricultural Communications (Even years, Fa)

AGED 4143 Electronic Communications in Agriculture (Even years, Sp)

AGED 4243 Graphic Design in AFLS (Sp, Su, Fa)

AGED 4343 Communication Campaigns in Agriculture (Odd years, Sp)

AGED 4543 Ag Publications (Even years, Sp)

EXED 475V Internship in Extension (Sp, Su, Fa) (3 hours)

JOUR 1033 Fundamentals of Journalism (Sp, Su, Fa)

Select 6 hours from the following:

AGED 3313 Agribusiness Sales (Sp)

AGED 3133 Instructional and Presentation Strategies (Fa)

AGED 4443 Principles of Technological Change (Odd years, Fa)

COMM 2303 Advanced Public Speaking (Sp, Su, Fa)

COMM 2343 Introduction to Small-Group Communication (Sp, Su, Fa)

COMM 3703 Organizational Communication (Fa)

JOUR 2013 News Reporting I (Sp, Fa)

JOUR 2032 Broadcast News Reporting I (Sp, Fa)  
& JOUR 2031L and Broadcast News Reporting I Laboratory (Sp, Fa)

JOUR 2332 Photo Journalism I (Fa)  
& JOUR 2331L and Photojournalism I Laboratory (Fa)

JOUR 3023 News Reporting II (Sp, Fa)

JOUR 3072 Broadcast News Reporting II (Sp, Fa)  
& JOUR 3071L and Broadcast News Reporting II Laboratory (Sp, Fa)

JOUR 3743 Public Relations Principles (Sp, Fa)

**Electives** 12-18

**Total Hours** 120

**Agricultural Communication Nine-Semester Plan (ACOM)**

First Year	Units		
	Fall	Spring	Summer
UNIV 1001 University Perspectives (Sp, Su, Fa)	1		
AGME 1613 Fundamentals of Agricultural Systems Technology (Fa) & AGME 1611L Fundamentals of Agricultural Systems Technology Laboratory (Fa)	4		
ANSC 1032 Introductory Animal Sciences (Sp, Fa)	2		
ANSC 1051 Introduction to the Livestock Industry (Sp, Fa)	1		
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	4		
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3		
AGED 2143 Introduction to Agricultural Communications (Fa)			3
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)			3
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)			3
JOUR 1033 Fundamentals of Journalism (Sp, Su, Fa)			3
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (or higher) or MATH 1313 Quantitative Reasoning (ACTS Equivalency = MATH 1113) (Sp, Fa)			3

Year Total: 15 15

Second Year	Units		
	Fall	Spring	Summer
AGED 1103 Principles of Agricultural Microeconomics (Sp, Su, Fa) or AGEC 2103 Principles of Agricultural Macroeconomics (Sp, Fa)	3		
AGME 2903 Agricultural and Human Environmental Sciences Applications of Microcomputers (Sp, Su, Fa)	3		
CHEM 1073 Fundamentals of Chemistry (ACTS Equivalency = CHEM 1214 Lecture) (Su, Fa) & CHEM 1071L Fundamentals of Chemistry Laboratory (ACTS Equivalency = CHEM 1214 Lab) (Fa)	4		
CSES 1203 Introduction to Plant Sciences (Sp, Fa)	3		
Fine Arts/Humanities Core Elective	3		
AGED 3143 Communicating Agriculture to the Public (Sp, Su, Fa)		3	
CSES 2013 Pest Management (Sp)		3	
HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa) (or HIST 2013 History of the American People, 1877 to Present (ACTS ) or PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)		3	
PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)		3	
General Electives		3	
Year Total:	16	15	

Third Year	Units		
	Fall	Spring	Summer
AGED 3243 Ag Reporting and Feature Writing (Odd years, Fa)	3		
BIOL 2013 General Microbiology (ACTS Equivalency = BIOL 2004 Lecture) (Sp, Su, Fa) & BIOL 2011L General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa) or PHYS 1044 Physics for Architects I (Fa)	4		
CSES 2203 Soil Science (Sp, Fa)	3		
CSES 2201L Soil Science Laboratory (Sp, Fa) or CSES 355V Soil Profile Description (Fa)	1		
Fine Arts/Humanities Core Elective	3		
General Elective	3		
AGED 3153 Leadership Development in Agriculture (Sp)		3	

AGED 4343 Communication Campaigns in Agriculture (Odd years, Sp)			3
Science/Math Elective			3
Social Science Core Elective			3
General Elective			3
EXED 475V Internship in Extension (Sp, Su, Fa)			3
Year Total:	17	15	3

Fourth Year	Units		
	Fall	Spring	Summer
AGED 3943 Professional Development in Agricultural Communications (Even years, Fa)	3		
AGED 4003 Issues in Agriculture (Fa)	3		
AGED 4243 Graphic Design in AFLS (Sp, Su, Fa)	3		
ACOM Concentration Elective	3		
AGED 4143 Electronic Communications in Agriculture (Even years, Sp)		3	
AGED 4543 Ag Publications (Even years, Sp)		3	
ACOM Concentration Elective		3	
Upper Division General Elective		3	
Year Total:	12	12	

Total Units in Sequence: 120

## Requirements for a Major in Agricultural Education, Communication and Technology (AECT)

State minimum core and discipline specific general education requirements:

(Course work that meets state minimum core requirements is in bold.)

<b>University Perspectives</b>	0-1
UNIV 1001 University Perspectives (Sp, Su, Fa)	
<b>Communications</b>	3-9
Select English Core Courses (6 hours unless exempt)	
AGED 3143 Communicating Agriculture to the Public (Sp, Su, Fa)	
<b>U.S. History or Government</b>	3
Select U.S. History or Government Core Courses	
<b>Mathematics</b>	3
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (or higher excluding MATH 1313)	
<b>Science</b>	15
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL & BIOL 1541L 1014 Lecture) (Sp, Su, Fa) and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	

BIOL 2013 & BIOL 2011L	General Microbiology (ACTS Equivalency = BIOL 2004 Lecture) (Sp, Su, Fa) and General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa) or PHYS 104 Physics for Architects I (Fa)	
CHEM 1073 & CHEM 1071L	Fundamentals of Chemistry (ACTS Equivalency = CHEM 1214 Lecture) (Su, Fa) and Fundamentals of Chemistry Laboratory (ACTS Equivalency = CHEM 1214 Lab) (Fa)	
Science Elective for AGED Concentration (3 hours)		
Science or Math Elective for ASTM, ACOM and AGLE Concentrations (3 hours)		
<b>Fine Arts/Humanities</b>		<b>6</b>
Choose from Fine Arts and Humanities Core Courses (6 hours) for ASTM, ACOM and AGLE Concentrations		
For AGED concentration, select FNAR Core (3 hours from Category A)		
WLIT 1113	World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)	
	or WLIT 1123 World Literature II (ACTS Equivalency = ENGL 2123) (Sp, Su, Fa)	
<b>Social Science</b>		<b>9</b>
Choose Social Science Core Courses (3 hours)		
AGEC 1103	Principles of Agricultural Microeconomics (Sp, Su, Fa)	
	or AGECE 211 Principles of Agricultural Macroeconomics (Sp, Fa)	
PSYC 2003	General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)	
<b>AECT Requirements</b>		<b>23</b>
AGED 4003	Issues in Agriculture (Fa)	
AGME 1613 & AGME 1611L	Fundamentals of Agricultural Systems Technology (Fa) and Fundamentals of Agricultural Systems Technology Laboratory (Fa)	
AGME 2903	Agricultural and Human Environmental Sciences Applications of Microcomputers (Sp, Su, Fa)	
ANSC 1032	Introductory Animal Sciences (Sp, Fa)	
ANSC 1051	Introduction to the Livestock Industry (Sp, Fa)	
CSES 1203	Introduction to Plant Sciences (Sp, Fa)	
CSES 2013	Pest Management (Sp)	
CSES 2203	Soil Science (Sp, Fa)	
CSES 2201L	Soil Science Laboratory (Sp, Fa) (or 1 hour of CSES 355V)	
	or CSES 355V Soil Profile Description (Fa)	

## Additional Requirements for AGED Concentration

Complete an evaluation for internship. Students must also meet the following criteria to be cleared for the internship:

1. Successful completion of the PRAXIS I test by meeting or exceeding the Arkansas Department of Education cut-off scores. This test should be taken after the student has completed 30 credit hours and upon completion of ENGL 1013 (<http://catalog.uark.edu/undergraduatecatalog/collegesandschools/jwilliamfulbrightcollegeofartsandsciences/artarts>), ENGL 1023 (<http://catalog.uark.edu/undergraduatecatalog/collegesandschools/>

<http://catalog.uark.edu/undergraduatecatalog/collegesandschools/jwilliamfulbrightcollegeofartsandsciences/artarts>), and MATH 1203 (<http://catalog.uark.edu/undergraduatecatalog/collegesandschools/jwilliamfulbrightcollegeofartsandsciences/artarts>).

2. Obtain a "C" or better in the following pre-education core courses: AGED 1123, AGED 1031, CIED 3023/CIED 4023, and CIED 3033 (<http://catalog.uark.edu/undergraduatecatalog/collegesandschools/jwilliamfulbrightcollegeofartsandsciences/artarts>).
3. Obtain a "C" or better in concentration education courses: AGED 3133, AGED 3143, AGED 4843, AGED 4233, and AGED 475V Internship in Agricultural Education (Sp, Su, Fa).
4. Complete and submit online application to teacher education (See the Teacher Education Application Fee (p. 61)) through the university-wide Teacher Education Office GRAD 339 by Jan. 15 prior to the fall semester of the junior year. Complete degree with a cumulative GPA of 2.5 or higher. The degree must be posted to your University of Arkansas transcript at the Registrar's Office prior to certification.
5. Obtain departmental clearance for GPA requirements, course work requirements, an interview, and/or other requirements. Obtain clearance through an Arkansas Department of Education background check. Note: Another background check will be required prior to graduation in order to be eligible for licensure.
6. Submit completed application on the Office of Field Placement and Licensure website (<http://coehp.uark.edu/licensure.php>). Please contact the Director for the Office of Field Placement and Licensure, Graduate Education Building, Room 339, College of Education and Health Professions for more information.

For Teacher Certification (41-42 hours):

<b>Mechanical Technology Courses</b>		<b>8</b>
Select 8 hours from the following:		
AGME 2123	Metals and Welding (Sp, Fa)	
AGME 3042	Agricultural Construction Technology (Irregular)	
AGME 3102 & AGME 3101L	Small Power Units/Turf Equipment (Sp) and Small Power Units/Turf Equipment Laboratory (Sp)	
AGME 3153	Surveying in Agriculture and Forestry (Fa)	
AGME 3173	Electricity in Agriculture (Sp)	
AGME 4203	Mechanized Systems Management (Even years, Fa)	
AGME 4973	Irrigation (Sp)	

<b>Education Courses</b>		<b>21</b>
AGED 1031	Introduction to Early Field Experience (Fa)	
AGED 1123	Foundations of Agricultural Education (Fa)	
AGED 3133	Instructional and Presentation Strategies (Fa)	
AGED 4233	Program Development (Sp)	
AGED 4632	Teaching Diverse Populations in Agricultural and Extension Education (Sp)	
AGED 4843	Methods in Agricultural Laboratories (Sp)	
CIED 3023	Survey of Exceptionalities (Sp, Su, Fa)	
	or CIED 4023 Teaching in Inclusive Secondary Settings (Su)	
CIED 3033	Classroom Learning Theory (Sp, Su, Fa)	

<b>Other requirements for AGED Concentration</b>		<b>12-13</b>
AGED 475V	Internship in Agricultural Education (Sp, Su, Fa) (6 hours - Criminal background check is required prior to student internship)	

HORT Elective	
Science Elective (3 hours) OR	
CHEM 2613 Organic Physiological Chemistry (ACTS & CHEM 2611L Equivalency = CHEM 1224 Lecture) (Sp, Su, Fa) and Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su, Fa) (required for Science teacher licensure)	
Student must complete CPR certification	
<b>Electives</b>	9-16
<b>120 Total Hours</b>	

### Agricultural Education Nine-Semester Plan (AGED)

First Year	Units		
	Fall	Spring	Summer
UNIV 1001 University Perspectives (Sp, Su, Fa)	1		
AGED 1031 Introduction to Early Field Experience (Fa)	1		
AGED 1123 Foundations of Agricultural Education (Fa)	3		
AGME 1613 Fundamentals of Agricultural Systems Technology (Fa) & AGME 1611L Fundamentals of Agricultural Systems Technology Laboratory (Fa)	4		
ANSC 1032 Introductory Animal Sciences (Sp, Fa)	2		
ANSC 1051 Introduction to the Livestock Industry (Sp, Fa)	1		
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa) (Unless Exempt)	3		
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)		4	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa) (Unless Exempt)		3	
HORT Elective		3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (or higher) or MATH 1313 Quantitative Reasoning (ACTS Equivalency = MATH 1113) (Sp, Fa)		3	
PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)		3	
<b>Year Total:</b>	<b>15</b>	<b>16</b>	

Second Year	Units		
	Fall	Spring	Summer
AGEC 1103 Principles of Agricultural Microeconomics (Sp, Su, Fa) or AGECE 2103 Principles of Agricultural Macroeconomics (Sp, Fa)	3		
AGME 2903 Agricultural and Human Environmental Sciences Applications of Microcomputers (Sp, Su, Fa)	3		
CHEM 1073 Fundamentals of Chemistry (ACTS Equivalency = CHEM 1214 Lecture) (Su, Fa) & CHEM 1071L Fundamentals of Chemistry Laboratory (ACTS Equivalency = CHEM 1214 Lab) (Fa)	4		
CSES 1203 Introduction to Plant Sciences (Sp, Fa)	3		
Fine Arts/Humanities Core Elective	3		
AGED 3143 Communicating Agriculture to the Public (Sp, Su, Fa)			3
CSES 2013 Pest Management (Sp)			3
HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa) (or HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Spr, Su, Fa) or PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)			3
WLIT 1113 World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)			3
Science Elective (3 hours) or			3-4
CHEM 2613 Organic Physiological Chemistry (ACTS Equivalency = CHEM 1224 Lecture) (Sp, Su, Fa) & CHEM 2611L Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su, Fa)			
<b>Year Total:</b>	<b>16</b>	<b>15</b>	

Third Year	Units		
	Fall	Spring	Summer
AGED 3133 Instructional and Presentation Strategies (Fa)	3		
AGME Elective	3		
CSES 2203 Soil Science (Sp, Fa)	3		
CSES 2201L Soil Science Laboratory (Sp, Fa) or CSES 355V Soil Profile Description (Fa)	1		
Social Science Core Elective	3		
General Elective	3		
AGME Electives			5

BIOL 2013 General Microbiology (ACTS Equivalency = BIOL 2004 Lecture) (Sp, Su, Fa)	4		
& BIOL 2011L General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa) or PHYS 1044 Physics for Architects I (Fa)			
CIED 3023 Survey of Exceptionalities (Sp, Su, Fa) or CIED 4023 Teaching in Inclusive Secondary Settings (Su)	3		
General Electives	4		
AGED 475V Internship in Agricultural Education (Sp, Su, Fa)		2	
Year Total:	16	16	2

Fourth Year	Units		
	Fall	Spring	Summer
AGED 4003 Issues in Agriculture (Fa)	3		
CIED 3033 Classroom Learning Theory (Sp, Su, Fa)	3		
General Elective	3-4		
Science Elective	3		
AGED 4233 Program Development (Sp)		3	
AGED 4632 Teaching Diverse Populations in Agricultural and Extension Education (Sp)		2	
AGED 4843 Methods in Agricultural Laboratories (Sp)		3	
AGED 475V Internship in Agricultural Education (Sp, Su, Fa)		4	
Year Total:	12	12	

Total Units in Sequence: 120

## Requirements for a Major in Agricultural Education, Communication and Technology (AECT)

State minimum core and discipline specific general education requirements:

(Course work that meets state minimum core requirements is in bold.)

<b>University Perspectives</b>	0-1
UNIV 1001 University Perspectives (Sp, Su, Fa)	
<b>Communications</b>	3-9
Select English Core Courses (6 hours unless exempt)	
AGED 3143 Communicating Agriculture to the Public (Sp, Su, Fa)	
<b>U.S. History or Government</b>	3
Select U.S. History or Government Core Courses	
<b>Mathematics</b>	3
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (or higher excluding MATH 1313)	

## Science 15

BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL & BIOL 1541L 1014 Lecture) (Sp, Su, Fa)  
and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)

BIOL 2013 General Microbiology (ACTS Equivalency = BIOL & BIOL 2011L 2004 Lecture) (Sp, Su, Fa)  
and General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa)  
or PHYS 1044 Physics for Architects I (Fa)

CHEM 1073 Fundamentals of Chemistry (ACTS Equivalency = & CHEM 1071L CHEM 1214 Lecture) (Su, Fa)  
and Fundamentals of Chemistry Laboratory (ACTS Equivalency = CHEM 1214 Lab) (Fa)

Science Elective for AGED Concentration (3 hours)

Science or Math Elective for ASTM, ACOM and AGLE Concentrations (3 hours)

## Fine Arts/Humanities 6

Choose from Fine Arts and Humanities Core Courses (6 hours) for ASTM, ACOM and AGLE Concentrations

For AGED concentration, select FNAR Core (3 hours from Category A)

WLIT 1113 World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)

or WLIT 1123 World Literature II (ACTS Equivalency = ENGL 2123) (Sp, Su, Fa)

## Social Science 9

Choose Social Science Core Courses (3 hours)

AGEC 1103 Principles of Agricultural Microeconomics (Sp, Su, Fa)

or AGEC 211 Principles of Agricultural Macroeconomics (Sp, Fa)

PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)

## AECT Requirements 23

AGED 4003 Issues in Agriculture (Fa)

AGME 1613 Fundamentals of Agricultural Systems Technology & AGME 1611L (Fa)  
and Fundamentals of Agricultural Systems Technology Laboratory (Fa)

AGME 2903 Agricultural and Human Environmental Sciences Applications of Microcomputers (Sp, Su, Fa)

ANSC 1032 Introductory Animal Sciences (Sp, Fa)

ANSC 1051 Introduction to the Livestock Industry (Sp, Fa)

CSES 1203 Introduction to Plant Sciences (Sp, Fa)

CSES 2013 Pest Management (Sp)

CSES 2203 Soil Science (Sp, Fa)

CSES 2201L Soil Science Laboratory (Sp, Fa) (or 1 hour of CSES 355V)

or CSES 355V Soil Profile Description (Fa)

## Additional Requirements for Agricultural Leadership Concentration (24 Hours)

### AGLE Concentration Requirements 24

AGED 2143 Introduction to Agricultural Communications (Fa)

AGED 3153 Leadership Development in Agriculture (Sp)

AGED 3943	Professional Development in Agricultural Communications (Even years, Fa)
AGED 4153	Survey of Leadership Theory in Agriculture (Fa)
AGED 4163	Leadership Analysis Through Film (Sp)
AGED 4443	Principles of Technological Change (Odd years, Fa)
AGED/EXED 475V	Internship in Agricultural Education (Sp, Su, Fa)
COMM 1313	Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)

**AGLE Concentration and General Electives** 27-33

Recommended electives:

AGED 3133	Instructional and Presentation Strategies (Fa)
AGEC 3313	Agribusiness Sales (Sp)
AGEC 3503	Agricultural Law I (Fa)
AGEC 4613	Political Economy of Agriculture and Food (Fa)

**Total Hours** 120

**Agricultural Leadership Nine-Semester Plan (AGLE)**

	Units		
	Fall	Spring	Summer
<b>First Year</b>			
UNIV 1001 University Perspectives (Sp, Su, Fa)	1		
AGME 1613 Fundamentals of Agricultural Systems Technology (Fa) & AGME 1611L Fundamentals of Agricultural Systems Technology Laboratory (Fa)	4		
ANSC 1032 Introductory Animal Sciences (Sp, Fa)	2		
ANSC 1051 Introduction to the Livestock Industry (Sp, Fa)	1		
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	4		
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3		
AGED 2143 Introduction to Agricultural Communications (Fa)		3	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)		3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)		3	

HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa) or HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa) or PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)	3		
<b>Year Total:</b>	15	15	

**Second Year** Units

	Fall	Spring	Summer
AGEC 1103 Principles of Agricultural Microeconomics (Sp, Su, Fa) or AGECE 2103 Principles of Agricultural Macroeconomics (Sp, Fa)	3		
AGME 2903 Agricultural and Human Environmental Sciences Applications of Microcomputers (Sp, Su, Fa)	3		
CHEM 1073 Fundamentals of Chemistry (ACTS Equivalency = CHEM 1214 Lecture) (Su, Fa) & CHEM 1071L Fundamentals of Chemistry Laboratory (ACTS Equivalency = CHEM 1214 Lab) (Fa)	4		
CSES 1203 Introduction to Plant Sciences (Sp, Fa)	3		
Fine Arts/Humanities Core Elective	3		
AGED 3143 Communicating Agriculture to the Public (Sp, Su, Fa)			3
Fine Arts/Humanities Core Elective			3
BIOL 2013 General Microbiology (ACTS Equivalency = BIOL 2004 Lecture) (Sp, Su, Fa) & BIOL 2011L General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa) or PHYS 1044 Physics for Architects I (Fa)			4
CSES 2013 Pest Management (Sp)			3
PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)			3
<b>Year Total:</b>	16	16	

**Third Year** Units

	Fall	Spring	Summer
AGED 3943 Professional Development in Agricultural Communications (Even years, Fa)	3		
CSES 2203 Soil Science (Sp, Fa)	3		
CSES 2201L Soil Science Laboratory (Sp, Fa) or CSES 355V Soil Profile Description (Fa)	1		
AGLE Concentration or General Electives	9		



AGED 3153 Leadership Development in Agriculture (Sp)			3
AGLE Concentration or General Electives			6
Social Science Core Elective			3
Science/Math Elective			3
AGED 475V Internship in Agricultural Education (Sp, Su, Fa)			3
Year Total:	16	15	3

Fourth Year	Units		
	Fall	Spring	Summer
AGED 4153 Survey of Leadership Theory in Agriculture (Fa)	3		
AGED 4003 Issues in Agriculture (Fa)	3		
AGED 4443 Principles of Technological Change (Odd years, Fa)	3		
	3		
AGED 4163 Leadership Analysis Through Film (Sp)		3	
AGLE Concentration or General Electives		9	
Year Total:	12	12	

Total Units in Sequence: 120

## Requirements for a Major in Agricultural Education, Communication and Technology (AECT)

State minimum core and discipline specific general education requirements:

(Course work that meets state minimum core requirements is in bold.)

<b>University Perspectives</b>		0-1
UNIV 1001 University Perspectives (Sp, Su, Fa)		
<b>Communications</b>		3-9
Select English Core Courses (6 hours unless exempt)		
AGED 3143 Communicating Agriculture to the Public (Sp, Su, Fa)		
<b>U.S. History or Government</b>		3
Select U.S. History or Government Core Courses		
<b>Mathematics</b>		3
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (or higher excluding MATH 1313)		
<b>Science</b>		15
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL & BIOL 1541L 1014 Lecture) (Sp, Su, Fa) and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)		
BIOL 2013 General Microbiology (ACTS Equivalency = BIOL & BIOL 2011L 2004 Lecture) (Sp, Su, Fa) and General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa) or PHYS 104 Physics for Architects I (Fa)		

CHEM 1073 Fundamentals of Chemistry (ACTS Equivalency = & CHEM 1071L CHEM 1214 Lecture) (Su, Fa) and Fundamentals of Chemistry Laboratory (ACTS Equivalency = CHEM 1214 Lab) (Fa)

Science Elective for AGED Concentration (3 hours)

Science or Math Elective for ASTM, ACOM and AGLE Concentrations (3 hours)

### Fine Arts/Humanities 6

Choose from Fine Arts and Humanities Core Courses (6 hours) for ASTM, ACOM and AGLE Concentrations

For AGED concentration, select FNAR Core (3 hours from Category A)

WLIT 1113 World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)

or WLIT 1123 World Literature II (ACTS Equivalency = ENGL 2123) (Sp, Su, Fa)

### Social Science 9

Choose Social Science Core Courses (3 hours)

AGEC 1103 Principles of Agricultural Microeconomics (Sp, Su, Fa)

or AGECE 211 Principles of Agricultural Macroeconomics (Sp, Fa)

PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)

### AECT Requirements 23

AGED 4003 Issues in Agriculture (Fa)

AGME 1613 Fundamentals of Agricultural Systems Technology & AGME 1611L (Fa)

and Fundamentals of Agricultural Systems Technology Laboratory (Fa)

AGME 2903 Agricultural and Human Environmental Sciences Applications of Microcomputers (Sp, Su, Fa)

ANSC 1032 Introductory Animal Sciences (Sp, Fa)

ANSC 1051 Introduction to the Livestock Industry (Sp, Fa)

CSES 1203 Introduction to Plant Sciences (Sp, Fa)

CSES 2013 Pest Management (Sp)

CSES 2203 Soil Science (Sp, Fa)

CSES 2201L Soil Science Laboratory (Sp, Fa) (or 1 hour of CSES 355V)

or CSES 355V Soil Profile Description (Fa)

## Additional Requirements for ASTM Concentration (33 hours)

### ASTM Requirements 33

AGEC 2303 Introduction to Agribusiness (Sp, Su, Fa)

AGEC 3303 Food and Agricultural Marketing (Sp, Su, Fa)

AGEC 3403 Farm Business Management (Sp, Fa)

AGED 3153 Leadership Development in Agriculture (Sp)

AGME 3102 Small Power Units/Turf Equipment (Sp) & AGME 3101L Land Small Power Units/Turf Equipment Laboratory (Sp)

AGME 3173 Electricity in Agriculture (Sp) & AGME 3101L Land Small Power Units/Turf Equipment Laboratory (Sp)

EXED 475V Internship in Extension (Sp, Su, Fa) (3 hours)

Science or Math Elective (3-4 hours)

Select 8-9 hours from the following:	
AGME 2123	Metals and Welding (Sp, Fa)
AGME 3153	Surveying in Agriculture and Forestry (Fa)
AGME 402V	Special Topics in Agricultural Mechanization (Irregular)
AGME 4203	Mechanized Systems Management (Even years, Fa)
AGME 4973	Irrigation (Sp)
ENSC 3603	GIS for Environmental Science (Odd Years, Sp)
GEOS 3543	Geospatial Applications and Information Science (Sp, Fa)
GEOS 4523	Cartographic Design and Production (Sp)
GEOS 4593	Introduction to Global Positioning Systems and Global Navigation Satellite Systems (Fa)

<b>Electives</b>	17-23
<b>Total Hours</b>	120

### Agricultural Systems Technology Management Nine-Semester Plan (ASTM)

	Units		
	Fall	Spring	Summer
UNIV 1001 University Perspectives (Sp, Su, Fa)	1		
AGME 1613 Fundamentals of Agricultural Systems Technology (Fa) & AGME 1611L Fundamentals of Agricultural Systems Technology Laboratory (Fa)	4		
ANSC 1032 Introductory Animal Sciences (Sp, Fa)	2		
ANSC 1051 Introduction to the Livestock Industry (Sp, Fa)	1		
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	4		
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3		
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3	
Fine Arts/Humanities Core Elective		3	
HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa) (or HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)) or PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)		3	

MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (or higher) or MATH 1313 Quantitative Reasoning (ACTS Equivalency = MATH 1113) (Sp, Fa)			3
PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)			3
<b>Year Total:</b>	15	15	

	Units		
	Fall	Spring	Summer
AGEC 1103 Principles of Agricultural Microeconomics (Sp, Su, Fa)	3		
AGME 2903 Agricultural and Human Environmental Sciences Applications of Microcomputers (Sp, Su, Fa)	3		
CHEM 1073 Fundamentals of Chemistry (ACTS Equivalency = CHEM 1214 Lecture) (Su, Fa) & CHEM 1071L Fundamentals of Chemistry Laboratory (ACTS Equivalency = CHEM 1214 Lab) (Fa)	4		
CSES 1203 Introduction to Plant Sciences (Sp, Fa)	3		
General Elective	3		
AGEC 2303 Introduction to Agribusiness (Sp, Su, Fa)			3
AGED 3143 Communicating Agriculture to the Public (Sp, Su, Fa)			3
CSES 2013 Pest Management (Sp)			3
Math/Science Elective			3
General Electives			4
<b>Year Total:</b>	16	16	

	Units		
	Fall	Spring	Summer
AGEC 3403 Farm Business Management (Sp, Fa)	3		
ASTM Concentration Elective	2-3		
BIOL 2013 General Microbiology (ACTS Equivalency = BIOL 2004 Lecture) (Sp, Su, Fa) & BIOL 2011L General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa) or PHYS 1044 Physics for Architects I (Fa)	4		
CSES 2203 Soil Science (Sp, Fa)	3		
CSES 2201L Soil Science Laboratory (Sp, Fa) or CSES 355V Soil Profile Description (Fa)	1		
Social Science Core Elective	3		
AGEC 3303 Food and Agricultural Marketing (Sp, Su, Fa)			3

AGED 3153 Leadership Development in Agriculture (Sp)	3		
AGME 3102 Small Power Units/Turf Equipment (Sp) & AGME 3101L Small Power Units/Turf Equipment Laboratory (Sp)	3		
AGME 3173 Electricity in Agriculture (Sp)	3		
Math/Science Elective	3-4		
EXED 475V Internship in Extension (Sp, Su, Fa)			3
Year Total:	16	15	3

Fourth Year	Units		
	Fall	Spring	Summer
AGED 4003 Issues in Agriculture (Fa)	3		
ASTM Concentration Elective	3		
Upper Division General Electives	6		
ASTM Concentration Elective		3	
Fine Arts/Humanities Core Elective		3	
Upper Division General Electives		6	
Year Total:	12	12	

Total Units in Sequence: 120

## Minor in Agricultural Communications (ACOM-M)

The Agricultural Communications Minor will consist of 18 hours to include the following:

AGED 2143	Introduction to Agricultural Communications (Fa)	3
AGED 3143	Communicating Agriculture to the Public (Sp, Su, Fa)	3
JOUR 1033	Fundamentals of Journalism (Sp, Su, Fa)	3
Select 9 hours from the following:		9
AGED 3243	Ag Reporting and Feature Writing (Odd years, Fa)	
AGED 3943	Professional Development in Agricultural Communications (Even years, Fa)	
AGED 4143	Electronic Communications in Agriculture (Even years, Sp)	
AGED 4243	Graphic Design in AFLS (Sp, Su, Fa)	
AGED 4343	Communication Campaigns in Agriculture (Odd years, Sp)	
AGED 4543	Ag Publications (Even years, Sp)	
Total Hours		18

A student planning to minor in Agricultural Education must notify the program adviser.

## Minor in Agricultural Education (AGED-M)

The Agricultural Education Minor will consist of 21 hours to include the following:

AGED 1123	Foundations of Agricultural Education (Fa)	3
AGED 3133	Instructional and Presentation Strategies (Fa)	3

AGED 3163	Curriculum Development and Assessment Techniques in AGED (Sp)	3
AGED 4233	Program Development (Sp)	3
AGED 4843	Methods in Agricultural Laboratories (Sp)	3
CIED 3033	Classroom Learning Theory (Sp, Su, Fa)	3
CIED 3023	Survey of Exceptionalities (Sp, Su, Fa)	3
	or CIED 4023 Teaching in Inclusive Secondary Settings (Su)	
Total Hours		21

Teacher Education Requirements: To gain teacher certification, students must apply during the Fall semester of their sophomore year. We recognize not all programs can follow this timeline, but applying early will allow ample time to complete the requirements for clearance through Teacher Education.

## Minor in Agricultural Leadership (AGLE-M)

The Agricultural Leadership Minor will consist of 18 semester hours to include:

AGED 2143	Introduction to Agricultural Communications (Fa)	3
AGED 3153	Leadership Development in Agriculture (Sp)	3
AGED 4153	Survey of Leadership Theory in Agriculture (Fa)	3

Select 9 hours from the following: 9

AGED 3313	Agribusiness Sales (Sp)	
AGED 3133	Instructional and Presentation Strategies (Fa)	
AGED 3943	Professional Development in Agricultural Communications (Even years, Fa)	
AGED 4163	Leadership Analysis Through Film (Sp)	
AGED 4443	Principles of Technological Change (Odd years, Fa)	
EXED 4183	Management of Volunteer Programs (Irregular)	

A student planning to minor in Agricultural Leadership should contact the program adviser for consultation and more detailed information.

## Minor in Agricultural Systems Technology Management (ASTM-M)

The Agricultural Systems Technology Management Minor will consist of 18 hours to include the following:

AGME 1613	Fundamentals of Agricultural Systems Technology (Fa)	3
AGME 2903	Agricultural and Human Environmental Sciences Applications of Microcomputers (Sp, Su, Fa)	3
Select 12 hours from the following:		12

AGME 1611L	Fundamentals of Agricultural Systems Technology Laboratory (Fa)	
AGME 2123	Metals and Welding (Sp, Fa)	
AGME 3153	Surveying in Agriculture and Forestry (Fa)	
AGME 3102	Small Power Units/Turf Equipment (Sp) & AGME 3101L Land Small Power Units/Turf Equipment Laboratory (Sp)	
AGME 3173	Electricity in Agriculture (Sp)	
AGME 4203	Mechanized Systems Management (Even years, Fa)	
AGME 4973	Irrigation (Sp)	

ENSC 3603 GIS for Environmental Science (Odd Years, Sp)

Total Hours 18

A student planning to minor in Agricultural Systems Technology Management must notify the program adviser for consultation and more detailed information.

## Animal Science (ANSC)

### Faculty

**Chelsey Ahrens**, Assistant Professor  
**Jason Apple**, Professor  
**Clayton Bailey**, Adjunct Assistant Professor  
**Douglas H. Baird**, Adjunct Professor  
**Paul Arthur Beck**, Professor  
**Steve Breeding**, Adjunct Associate Professor  
**Jeffrey Cheuning**, Adjunct Professor  
**Ken Coffey**, Professor  
**M. Shane Gadberry**, Associate Professor  
**Stacey A. Gunter**, Adjunct Professor  
**Yan Huang**, Assistant Professor  
**John A. Jennings**, Professor  
**Kathleen Jogan**, Instructor  
**Beth Kegley**, Professor  
**Dawn A. Koltes**, Adjunct Assistant Professor  
**James Koltes**, Assistant Professor  
**Bryan Richard Kutz**, Instructor  
**Michael L. Looper**, Professor  
**Charles Maxwell**, Professor  
**Russell A. Nugent III**, Adjunct Professor  
**Dirk Philipp**, Associate Professor  
**Fred W. Pohlman**, Professor  
**Daniel S. Potter**, Instructor  
**Jeremy G. Powell**, Professor  
**Richard A. Roeder**, Professor  
**Rick Rorie**, Professor  
**Charles F. Rosenkrans Jr.**, Professor  
**Elizabeth Rebecca Rumley**, Research Assistant Professor  
**Mark Russell**, Assistant Professor  
**Bruce C. Shanks**, Adjunct Assistant Professor  
**Lauren Thomas**, Clinical Assistant Professor  
**Heidi Ward**, Assistant Professor  
**Troy Wistuba**, Adjunct Assistant Professor  
**Tom Yazwinski**, University Professor  
**Jiangchao Zhao**, Assistant Professor

Michael L. Looper  
 Head of the Department  
 B114 Agricultural, Food, and Life Sciences Building  
 479-575-4351  
<http://animal-science.uark.edu/>

The animal science major offers three areas of concentration designed to provide the scientific and technical education to prepare students for positions of leadership and responsibility. Students gain valuable experience pertaining to the production of beef and dairy cattle, swine, horses, sheep, and companion animals. In addition, extensive study is offered in the specialized areas of animal health, breeding and genetics, meat science, nutrition, and physiology.

Students majoring in animal science are prepared for a variety of careers. Pre-veterinary, pre-medical, and pre-professional course requirements

may be fulfilled while meeting degree requirements. Specific career opportunities include positions and services related to the production, merchandising, processing and distribution of meat, milk, and related products. Additional opportunities include field persons, farm and herd managers, and other agribusiness-related positions. With additional academic training, animal science majors may become extension livestock specialists, nutritionists, geneticists, and physiologists.

The General Animal Science Concentration is a science-based degree program designed for students desiring a broader general background in animal science and offers students the greatest degree of flexibility in adapting their degree program to a wide variety of career paths. It offers a larger list of elective classes and opportunity to minor in other disciplines.

The Pre-Professional/Science Concentration is designed primarily for students who intend to compete for admission to professional schools, advanced post-graduate degree programs, or other career paths that require a strong background and understanding of basic and applied sciences.

The Equine Concentration is designed for students who desire a sound science-based background in Animal Science, but desire a more intense study of equine management and equine science.

Students should consult an animal science adviser for specific course selections in the elective areas. With appropriate advising, students have an opportunity to complete at least one minor within the 120-hour degree program.

### Requirements for a Major in Animal Science (ANSC) with Animal Science concentration

State minimum core and discipline specific general education requirements:

(Course work that meets state minimum core requirements is in bold.)

<b>University Requirements</b>	0-1
UNIV 1001 University Perspectives (Sp, Su, Fa)	
<b>Communications</b>	6-12
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa) (unless exempt)	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa) (unless exempt)	
Communication Intensive Elective 6 hours (See adviser for approved list.)	
<b>History or Government</b>	3
HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa) or HIST 201:History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa) or PLSC 20C American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)	
<b>Mathematics</b>	3
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	
<b>Sciences</b>	16

BIOL 1543 & BIOL 1541L	Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)
BIOL 2013 & BIOL 2011L	General Microbiology (ACTS Equivalency = BIOL 2004 Lecture) (Sp, Su, Fa) and General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa)

Select one of the following

CHEM 1073 & CHEM 1071L	Fundamentals of Chemistry (ACTS Equivalency = CHEM 1214 Lecture) (Su, Fa) and Fundamentals of Chemistry Laboratory (ACTS Equivalency = CHEM 1214 Lab) (Fa)
or CHEM 1121 & CHEM 1121L	University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) and University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)

Select one of the following

CHEM 2613 & CHEM 2611L	Organic Physiological Chemistry (ACTS Equivalency = CHEM 1224 Lecture) (Sp, Su, Fa) and Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su, Fa)
or CHEM 3603 & CHEM 3601L	Organic Chemistry I (Su, Fa) and Organic Chemistry I Laboratory (Su, Fa)

#### Fine Arts and Humanities

6

Select one Fine Arts and one Humanities course from state minimum core approved list

#### Social Sciences

9

Select three Social Sciences courses from state minimum core approved list

#### ANSC Requirements

24

ANSC 1001L	Introductory to Animal Sciences Laboratory (Sp, Fa)
ANSC 1032	Introductory Animal Sciences (Sp, Fa)
ANSC 1041	Introduction to Companion Animal Industry (Sp, Fa)
or ANSC 1051	Introduction to the Livestock Industry (Sp, Fa)
ANSC 2252L	Introduction to Livestock and Meat Evaluation (Sp)
ANSC 2781	Career Preparation and Development (Fa)
ANSC 3133	Animal Breeding and Genetics (Sp)
ANSC 3143	Principles of Animal Nutrition (Sp)
ANSC 3433	Fundamentals of Reproductive Physiology (Fa)
ANSC 4142	Advanced Animal Handling Techniques (Sp, Fa)

Select at least six hours from the following

ANSC 4252	Cow-Calf Management (Fa)
ANSC 4262	Swine Production (Even years, Fa)
ANSC 4272	Sheep Production (Odd years, Sp)
ANSC 4283	Horse Production (Sp)
ANSC 4452	Milk Production (Sp)
ANSC 4482	Companion Animal Management (Fa)
ANSC 4652	Stocker-Feedlot Cattle Management (Sp)

#### Animal Science Electives

13

Select 13 hours from the following:

ANSC 3003	Applied Animal Parasitology (Even years, Sp, Fa)
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ANSC 3013	Parasitisms of Domesticated Non-Herbivores (Odd years, Sp, Fa)
ANSC 3032	Animal Physiology I (Fa)
ANSC 3042	Animal Physiology II (Sp)
ANSC 3123	Principles of Genetics (Fa)
ANSC 3152 & ANSC 3151L	Applied Animal Nutrition (Fa) and Applied Animal Nutrition Laboratory (Fa)
ANSC 3333	Diseases of Livestock (Sp)
ANSC 3613	Meat Science (Fa)
ANSC 4303	Comparative Veterinary Anatomy (Sp)

#### Discipline-Related Electives

16

Select 16 hours from the following

ANSC 2003	Introduction to Equine Industry (Sp)
ANSC 2213	Behavior of Domestic Animals (Fa)
ANSC 2303	Introduction to Horsemanship (Sp, Fa)
ANSC 3072	Equine Selection and Evaluation (Sp)
ANSC 3282	Livestock Judging and Selection (Fa)
ANSC 3291	Livestock Junior Judging Team Activity (Sp)
ANSC 3491L	Artificial Insemination in Cattle (Sp)
ANSC 3723	Horse and Livestock Merchandising (Fa)
ANSC 400V	Special Problems (Sp, Su, Fa)
ANSC 401V	Internship in Animal Sciences (Sp, Su, Fa)
ANSC 4072	Advanced Equine Selection and Evaluation (Fa)
ANSC 410V	Special Topics in Animal Sciences (Irregular)
ANSC 4123	Legal Issues in Animal Agriculture (Odd years, Sp)
ANSC 4173	Thoroughbred Horse Industry (Odd years, Sp)
ANSC 4291	Livestock Senior Judging Team Activity (Fa)
AFLS 400VH	Honors Thesis (Sp, Su, Fa)
AGEC 1103	Principles of Agricultural Microeconomics (Sp, Su, Fa)
AGEC 2103	Principles of Agricultural Macroeconomics (Sp, Fa)
AGEC 2303	Introduction to Agribusiness (Sp, Su, Fa)
AGME 2903	Agricultural and Human Environmental Sciences Applications of Microcomputers (Sp, Su, Fa)
BIOL 1601L	Principles of Zoology Laboratory (ACTS Equivalency = BIOL 1054 Lab) (Su, Fa)
BIOL 1603	Principles of Zoology (ACTS Equivalency = BIOL 1054 Lecture) (Su, Fa)
BIOL 2531L	Cell Biology Laboratory (Sp, Fa)
BIOL 2533	Cell Biology (Sp, Fa)
CSES 1203	Introduction to Plant Sciences (Sp, Fa)
CSES 2013	Pest Management (Sp)
CHEM 1101L	University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)
CHEM 1103	University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa)
CHEM 1121L	University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)
CHEM 1123	University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa)
CHEM 2261L	Analytical Chemistry Laboratory (Sp, Fa)
CHEM 2263	Analytical Chemistry Lecture (Sp, Fa)
FDSC 2503	Food Safety and Sanitation (Sp, Fa)

MATH 1213	Plane Trigonometry (ACTS Equivalency = MATH 1203) (Sp, Su, Fa) (or higher)	
PHYS 2011L	College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab) (Su, Fa)	
PHYS 2013	College Physics I (ACTS Equivalency = PHYS 2014 Lecture) (Su, Fa)	
PHYS 2031L	College Physics II Laboratory (ACTS Equivalency = PHYS 2024 Lab) (Su)	
PHYS 2033	College Physics II (ACTS Equivalency = PHYS 2024 Lecture) (Sp, Su)	
POSC 2353	Poultry Breeder Management (Sp)	
BLAW 2013	The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa)	
ACCT 2013	Accounting Principles (Sp, Su, Fa)	
Or any upper division course in AGECE, AGED, AGME, AGST, BIOL, CHEM, CSES, FDSC, POSC, or WCOB.		
<b>General Electives</b>		17-24
<b>Total Hours</b>		120

### Animal Science B.S.A. with Animal Science Concentration Eight-Semester Degree Program

Students wishing to follow the degree plan should see the Eight Semester Degree Policy (p. 73) for university requirements of the program.

First Year	Units	
	Fall	Spring
UNIV 1001 University Perspectives (Sp, Su, Fa)	1	
ANSC 1001L Introductory to Animal Sciences Laboratory (Sp, Fa)	1	
ANSC 1032 Introductory Animal Sciences (Sp, Fa)	2	
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3	
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	4	
ANSC 1041 Introduction to Companion Animal Industry (Sp, Fa) or ANSC 1051 Introduction to the Livestock Industry (Sp, Fa)	1	
Social Sciences University Core Elective		3
ANSC 2252L Introduction to Livestock and Meat Evaluation (Sp)		2
General Elective		3
Fine Arts/Humanities University Core Elective		3
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa) (Unless Exempt)		3
Discipline-related Elective as AFLS Broadening Elective		3
<b>Year Total:</b>	<b>15</b>	<b>17</b>

Second Year	Units	
	Fall	Spring
ANSC 2781 Career Preparation and Development (Fa)	1	
ANSC 3433 Fundamentals of Reproductive Physiology (Fa)	3	
Select one of the following:	4	
CHEM 1073 Fundamentals of Chemistry (ACTS Equivalency = CHEM 1214 Lecture) (Su, Fa) & CHEM 1071L Fundamentals of Chemistry Laboratory (ACTS Equivalency = CHEM 1214 Lab) (Fa) or CHEM 1123/1121L University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa)		
Fine Arts/Humanities University Core Elective		3
History University Core Elective		3
ANSC 3133 Animal Breeding and Genetics (Sp)		3
Discipline-related Elective as AFLS Broadening Elective		3
Communication Intensive elective from approved list		3
General Elective		3
Select one of the following:		3-4
CHEM 2613 Organic Physiological Chemistry (ACTS Equivalency = CHEM 1224 Lecture) (Sp, Su, Fa) & CHEM 2611L Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su, Fa)		
Social Science University Core Elective		
<b>Year Total:</b>	<b>14</b>	<b>15</b>

Third Year	Units	
	Fall	Spring
ANSC 4142 Advanced Animal Handling Techniques (Sp, Fa)	2	
Communication Intensive Elective from an approved course list.	3	
BIOL 2013 General Microbiology (ACTS Equivalency = BIOL 2004 Lecture) (Sp, Su, Fa) & BIOL 2011L General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa)	4	
Select one of the following:	3-4	
Social Science University Core Elective		
CHEM 3603 Organic Chemistry I (Su, Fa) & CHEM 3601L Organic Chemistry I Laboratory (Su, Fa)		
Animal Science Electives	5	
ANSC 3143 Principles of Animal Nutrition (Sp)		3
Animal Science Electives		5
Social Science University Core Elective		3
Discipline-related Elective as AFLS Broadening Elective		3
General Elective		3
<b>Year Total:</b>	<b>18</b>	<b>17</b>

Fourth Year	Units	
	Fall	Spring
Animal Science Elective	3	
ANSC Production/Management Elective	2-4	
General Electives	8	
ANSC Production/Management Elective		2-4
Discipline-related Electives		7
General Electives		0-6
Year Total:	15	9
Total Units in Sequence:		120

## Requirements for a Major in Animal Science (ANSC) with Pre-Professional Science concentration

State minimum core and discipline specific general education requirements:

(Course work that meets state minimum core requirements is in bold.)

<b>University Requirements</b>	0-1
UNIV 1001 University Perspectives (Sp, Su, Fa)	
<b>Communications</b>	6-12
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	
Communication Intensive Elective 3 hours (See adviser for approved list.)	
<b>History or Government</b>	3
HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)	
or HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)	
or PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)	
<b>Mathematics</b>	3
MATH 1213 Plane Trigonometry (ACTS Equivalency = MATH 1203) (Sp, Su, Fa)	
<b>Sciences</b>	8
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL & BIOL 1541L 1014 Lecture) (Sp, Su, Fa) and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	
CHEM 1123 University Chemistry II (ACTS Equivalency = & CHEM 1121L CHEM 1424 Lecture) (Sp, Su, Fa) and University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)	
<b>Fine Arts and Humanities</b>	6
Select one Fine Arts and one Humanities course from state minimum core approved list	
<b>Social Sciences</b>	9

Select three Social Sciences courses from state minimum core approved list

ANSC Core Requirements		22
ANSC 1001L	Introductory to Animal Sciences Laboratory (Sp, Fa)	
ANSC 1032	Introductory Animal Sciences (Sp, Fa)	
ANSC 1041	Introduction to Companion Animal Industry (Sp, Fa)	
	or ANSC 1041 Introduction to the Livestock Industry (Sp, Fa)	
ANSC 2252L	Introduction to Livestock and Meat Evaluation (Sp)	
ANSC 2781	Career Preparation and Development (Fa)	
ANSC 3123	Principles of Genetics (Fa)	
ANSC 3143	Principles of Animal Nutrition (Sp)	
ANSC 3433	Fundamentals of Reproductive Physiology (Fa)	
ANSC 4142	Advanced Animal Handling Techniques (Sp, Fa)	

Select at least four hours from the following

ANSC 4252	Cow-Calf Management (Fa)
ANSC 4262	Swine Production (Even years, Fa)
ANSC 4272	Sheep Production (Odd years, Sp)
ANSC 4283	Horse Production (Sp)
ANSC 4452	Milk Production (Sp)
ANSC 4482	Companion Animal Management (Fa)
ANSC 4652	Stocker-Feedlot Cattle Management (Sp)

### Animal Science Electives 6

Select 6 hours from the following:

ANSC 3003	Applied Animal Parasitology (Even years, Sp, Fa)
ANSC 3013	Parasitisms of Domesticated Non-Herbivores (Odd years, Sp, Fa)
ANSC 3133	Animal Breeding and Genetics (Sp)
ANSC 3152	Applied Animal Nutrition (Fa)
& ANSC 3151L	and Applied Animal Nutrition Laboratory (Fa)
ANSC 3333	Diseases of Livestock (Sp)
ANSC 3613	Meat Science (Fa)
ANSC 4303	Comparative Veterinary Anatomy (Sp)

### Pre-Professional / Science Concentration 35

ANSC 3032	Animal Physiology I (Fa)
ANSC 3042	Animal Physiology II (Sp)
BIOL 1603	Principles of Zoology (ACTS Equivalency = BIOL & BIOL 1601L 1054 Lecture) (Su, Fa) and Principles of Zoology Laboratory (ACTS Equivalency = BIOL 1054 Lab) (Su, Fa)
BIOL 2013	General Microbiology (ACTS Equivalency = BIOL & BIOL 2011L 2004 Lecture) (Sp, Su, Fa) and General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa)
CHEM 1103	University Chemistry I (ACTS Equivalency = & CHEM 1101L CHEM 1414 Lecture) (Su, Fa) and University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)
CHEM 3603	Organic Chemistry I (Su, Fa) & CHEM 3601L and Organic Chemistry I Laboratory (Su, Fa)
CHEM 3613	Organic Chemistry II (Sp, Su) & CHEM 3611L and Organic Chemistry II Laboratory (Sp, Su)
CHEM 3813	Elements of Biochemistry (Sp, Su, Fa)

PHYS 2013 College Physics I (ACTS Equivalency = PHYS & PHYS 2011L 2014 Lecture) (Su, Fa)  
and College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab) (Su, Fa)

PHYS 2033 College Physics II (ACTS Equivalency = PHYS & PHYS 2031L 2024 Lecture) (Sp, Su)  
and College Physics II Laboratory (ACTS Equivalency = PHYS 2024 Lab) (Su)

**Discipline-Related Electives** 10

Select 10 hours from the following:

Suggested:

BIOL 2533 Cell Biology (Sp, Fa)

MATH 2554C Calculus I (ACTS Equivalency = MATH 2405) (Sp, Fa)

STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)  
or STAT 202 Biostatistics (Sp)

Other discipline related electives:

ANSC 2003 Introduction to Equine Industry (Sp)

ANSC 2213 Behavior of Domestic Animals (Fa)

ANSC 2303 Introduction to Horsemanship (Sp, Fa)

ANSC 3072 Equine Selection and Evaluation (Sp)

ANSC 3282 Livestock Judging and Selection (Fa)

ANSC 3291 Livestock Junior Judging Team Activity (Sp)

ANSC 3491L Artificial Insemination in Cattle (Sp)

ANSC 3723 Horse and Livestock Merchandising (Fa)

ANSC 400V Special Problems (Sp, Su, Fa)

ANSC 401V Internship in Animal Sciences (Sp, Su, Fa)

ANSC 4072 Advanced Equine Selection and Evaluation (Fa)

ANSC 410V Special Topics in Animal Sciences (Irregular)

ANSC 4123 Legal Issues in Animal Agriculture (Odd years, Sp)

ANSC 4173 Thoroughbred Horse Industry (Odd years, Sp)

ANSC 4291 Livestock Senior Judging Team Activity (Fa)

AFLS 400VH Honors Thesis (Sp, Su, Fa)

AGEC 1103 Principles of Agricultural Microeconomics (Sp, Su, Fa)

AGEC 2103 Principles of Agricultural Macroeconomics (Sp, Fa)

AGEC 2303 Introduction to Agribusiness (Sp, Su, Fa)

AGME 2903 Agricultural and Human Environmental Sciences Applications of Microcomputers (Sp, Su, Fa)

BIOL 2531L Cell Biology Laboratory (Sp, Fa)

CSES 1203 Introduction to Plant Sciences (Sp, Fa)

CSES 2013 Pest Management (Sp)

CHEM 2261L Analytical Chemistry Laboratory (Sp, Fa)

CHEM 2263 Analytical Chemistry Lecture (Sp, Fa)

FDSC 2503 Food Safety and Sanitation (Sp, Fa)

POSC 2353 Poultry Breeder Management (Sp)

ACCT 2013 Accounting Principles (Sp, Su, Fa)

BLAW 2013 The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa)

Or any upper division course in AGECE, AGED, AGME, AGST, BIOL, CHEM, CSES, FDSC, POSC, or WCOB.

**General Electives** 5-12

Total Hours 120

## Animal Science B.S.A. with Pre-Professional Science Concentration Eight-Semester Degree Program

Students wishing to follow the degree plan should see the Eight Semester Degree Policy (p. 73) for university requirements of the program.

First Year	Units	
	Fall	Spring
UNIV 1001 University Perspectives (Sp, Su, Fa)	1	
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
ANSC 1032 Introductory Animal Sciences (Sp, Fa)	2	
ANSC 1001L Introductory to Animal Sciences Laboratory (Sp, Fa)	1	
General Elective (unless MATH 1203 is needed as a prerequisite for MATH 1213)	3	
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) & CHEM 1101L University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)	4	
ANSC 1041 Introduction to Companion Animal Industry (Sp, Fa) or ANSC 1051 Introduction to the Livestock Industry (Sp, Fa)	1	
CHEM 1123 University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) & CHEM 1121L University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)		4
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
Social Sciences Core Elective		3
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)		4
ANSC 2252L Introduction to Livestock and Meat Evaluation (Sp)		2
Year Total:	15	16

Second Year	Units	
	Fall	Spring
Communication Intensive Elective	3	
ANSC 2781 Career Preparation and Development (Fa)	1	
CHEM 3603 Organic Chemistry I (Su, Fa) & CHEM 3601L Organic Chemistry I Laboratory (Su, Fa)	4	
BIOL 1603 Principles of Zoology (ACTS Equivalency = BIOL 1054 Lecture) (Su, Fa) & BIOL 1601L Principles of Zoology Laboratory (ACTS Equivalency = BIOL 1054 Lab) (Su, Fa)	4	



MATH 1213 Plane Trigonometry (ACTS Equivalency = MATH 1203) (Sp, Su, Fa)	3	
ANSC 3143 Principles of Animal Nutrition (Sp)	3	
CHEM 3613 Organic Chemistry II (Sp, Su) & CHEM 3611L Organic Chemistry II Laboratory (Sp, Su)	4	
BIOL 2013 General Microbiology (ACTS Equivalency = BIOL 2004 Lecture) (Sp, Su, Fa) & BIOL 2011L General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa)	4	
Fine Arts/Humanities Core Elective	3	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3	
Year Total:	15	17

Third Year	Units	
	Fall	Spring
ANSC 3032 Animal Physiology I (Fa)	2	
CHEM 3813 Elements of Biochemistry (Sp, Su, Fa)	3	
ANSC Electives or ANSC Production	2	
ANSC 3123 Principles of Genetics (Fa)	3	
Discipline-related Elective (MATH 2554 suggested)	4	
ANSC 3042 Animal Physiology II (Sp)		2
ANSC Electives or ANSC Production		2
Social Science Core Elective		3
Discipline-related Elective (STAT 2303 & BIOL 2533 suggested)		6
Year Total:	14	13

Fourth Year	Units	
	Fall	Spring
ANSC 3433 Fundamentals of Reproductive Physiology (Fa)	3	
ANSC 4142 Advanced Animal Handling Techniques (Sp, Fa)	2	
PHYS 2013 College Physics I (ACTS Equivalency = PHYS 2014 Lecture) (Su, Fa) & PHYS 2011L College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab) (Su, Fa)	4	
Social Sciences Core Elective	3	
Fine Arts/Humanities Core Elective	3	
ANSC Electives or ANSC Production		6
PHYS 2033 College Physics II (ACTS Equivalency = PHYS 2024 Lecture) (Sp, Su) & PHYS 2031L College Physics II Laboratory (ACTS Equivalency = PHYS 2024 Lab) (Su)		4
History/Government Core Elective		3
General Electives		2
Year Total:	15	15

Total Units in Sequence: 120

## Requirements for a Major in Animal Science (ANSC) with Equine concentration

State minimum core and discipline specific general education requirements:

(Course work that meets state minimum core requirements is in bold.)

<b>University Requirements</b>	0-1
<b>Communications</b>	6-12
UNIV 1001 University Perspectives (Sp, Su, Fa)	
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa) (unless exempt)	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa) (unless exempt)	
Communication Intensive Elective 6 hours (See adviser for approved list.)	
<b>History or Government</b>	3
HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa) or HIST 201:History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa) or PLSC 200 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)	
<b>Mathematics</b>	3
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	
<b>Sciences</b>	16
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL & BIOL 1541L 1014 Lecture) (Sp, Su, Fa) and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	
BIOL 2013 General Microbiology (ACTS Equivalency = BIOL & BIOL 2011L 2004 Lecture) (Sp, Su, Fa) and General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa)	
Select one of the following	
CHEM 1073 Fundamentals of Chemistry (ACTS Equivalency = & CHEM 1071L CHEM 1214 Lecture) (Su, Fa) and Fundamentals of Chemistry Laboratory (ACTS Equivalency = CHEM 1214 Lab) (Fa) or CHEM 1123 University Chemistry II (ACTS Equivalency = CHEM & CHEM 1121L 124 Lecture) (Sp, Su, Fa) and University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)	
Select one of the following	
CHEM 2613 Organic Physiological Chemistry (ACTS & CHEM 2611L Equivalency = CHEM 1224 Lecture) (Sp, Su, Fa) and Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su, Fa) or CHEM 3603 Organic Chemistry I (Su, Fa) & CHEM 3601L Organic Chemistry I Laboratory (Su, Fa)	
<b>Fine Arts and Humanities</b>	6
Select one Fine Arts and one Humanities course from state minimum core approved list	
<b>Social Sciences</b>	9

Select three Social Sciences courses from state minimum core approved list

**ANSC Requirements** 22

ANSC 1001L	Introductory to Animal Sciences Laboratory (Sp, Fa)
ANSC 1032	Introductory Animal Sciences (Sp, Fa)
ANSC 1041	Introduction to Companion Animal Industry (Sp, Fa)
or ANSC 1051 Introduction to the Livestock Industry (Sp, Fa)	
ANSC 2252L	Introduction to Livestock and Meat Evaluation (Sp)
ANSC 2781	Career Preparation and Development (Fa)
ANSC 3133	Animal Breeding and Genetics (Sp)
ANSC 3143	Principles of Animal Nutrition (Sp)
ANSC 3433	Fundamentals of Reproductive Physiology (Fa)
ANSC 4142	Advanced Animal Handling Techniques (Sp, Fa)

Select four hours from the following:

ANSC 4252	Cow-Calf Management (Fa)
ANSC 4262	Swine Production (Even years, Fa)
ANSC 4272	Sheep Production (Odd years, Sp)
ANSC 4452	Milk Production (Sp)
ANSC 4482	Companion Animal Management (Fa)
ANSC 4652	Stocker-Feedlot Cattle Management (Sp)

**Animal Science Electives** 13

Select 13 hours from the following:

ANSC 3003	Applied Animal Parasitology (Even years, Sp, Fa)
ANSC 3013	Parasitisms of Domesticated Non-Herbivores (Odd years, Sp, Fa)
ANSC 3032	Animal Physiology I (Fa)
ANSC 3042	Animal Physiology II (Sp)
ANSC 3123	Principles of Genetics (Fa)
ANSC 3152	Applied Animal Nutrition (Fa)
& ANSC 3151L and Applied Animal Nutrition Laboratory (Fa)	
ANSC 3333	Diseases of Livestock (Sp)
ANSC 3613	Meat Science (Fa)
ANSC 4303	Comparative Veterinary Anatomy (Sp)

**Equine Concentration** 14

ANSC 2003	Introduction to Equine Industry (Sp)
ANSC 3072	Equine Selection and Evaluation (Sp)
ANSC 3723	Horse and Livestock Merchandising (Fa)
ANSC 4173	Thoroughbred Horse Industry (Odd years, Sp)
ANSC 4283	Horse Production (Sp)

**Discipline-Related Electives** 13

Select 13 hours from the following

ANSC 2213	Behavior of Domestic Animals (Fa)
ANSC 2303	Introduction to Horsemanship (Sp, Fa)
ANSC 3282	Livestock Judging and Selection (Fa)
ANSC 3291	Livestock Junior Judging Team Activity (Sp)
ANSC 3491L	Artificial Insemination in Cattle (Sp)
ANSC 400V	Special Problems (Sp, Su, Fa)
ANSC 401V	Internship in Animal Sciences (Sp, Su, Fa)
ANSC 4072	Advanced Equine Selection and Evaluation (Fa)
ANSC 410V	Special Topics in Animal Sciences (Irregular)
ANSC 4123	Legal Issues in Animal Agriculture (Odd years, Sp)

ANSC 4291	Livestock Senior Judging Team Activity (Fa)
AFLS 400VH	Honors Thesis (Sp, Su, Fa)
AGEC 1103	Principles of Agricultural Microeconomics (Sp, Su, Fa)
AGEC 2103	Principles of Agricultural Macroeconomics (Sp, Fa)
AGEC 2303	Introduction to Agribusiness (Sp, Su, Fa)
AGME 2903	Agricultural and Human Environmental Sciences Applications of Microcomputers (Sp, Su, Fa)
BIOL 1601L	Principles of Zoology Laboratory (ACTS Equivalency = BIOL 1054 Lab) (Su, Fa)
BIOL 1603	Principles of Zoology (ACTS Equivalency = BIOL 1054 Lecture) (Su, Fa)
BIOL 2531L	Cell Biology Laboratory (Sp, Fa)
BIOL 2533	Cell Biology (Sp, Fa)
CSES 1203	Introduction to Plant Sciences (Sp, Fa)
CSES 2013	Pest Management (Sp)
CHEM 1101L	University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)
CHEM 1103	University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa)
CHEM 1121L	University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)
CHEM 1123	University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa)
CHEM 2261L	Analytical Chemistry Laboratory (Sp, Fa)
CHEM 2263	Analytical Chemistry Lecture (Sp, Fa)
FDSC 2503	Food Safety and Sanitation (Sp, Fa)
MATH 1213	Plane Trigonometry (ACTS Equivalency = MATH 1203) (Sp, Su, Fa) ( or higher)
PHYS 2011L	College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab) (Su, Fa)
PHYS 2013	College Physics I (ACTS Equivalency = PHYS 2014 Lecture) (Su, Fa)
PHYS 2031L	College Physics II Laboratory (ACTS Equivalency = PHYS 2024 Lab) (Su)
PHYS 2033	College Physics II (ACTS Equivalency = PHYS 2024 Lecture) (Sp, Su)
POSC 2353	Poultry Breeder Management (Sp)
ACCT 2013	Accounting Principles (Sp, Su, Fa)
BLAW 2013	The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa)

Or any upper division course in AGECE, AGED, AGME, AGST, BIOL, CHEM, CSES, FDSC, POSC, or WCOB.

**General Electives** 8-15

Total Hours 120

**Animal Science B.S.A. with Equine Concentration**

**Eight-Semester Degree Program**

Students wishing to follow the degree plan should see the Eight Semester Degree Policy (p. 73) for university requirements of the program.

First Year	Units	
	Fall	Spring
UNIV 1001 University Perspectives (Sp, Su, Fa)	1	

ANSC 1001L Introductory to Animal Sciences Laboratory (Sp, Fa)	1	
ANSC 1032 Introductory Animal Sciences (Sp, Fa)	2	
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	4	
ANSC 1041 Introduction to Companion Animal Industry (Sp, Fa) or ANSC 1051 Introduction to the Livestock Industry (Sp, Fa)	1	
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (OR higher level math)	3	
ANSC 2003 Introduction to Equine Industry (Sp)	3	
ANSC 2252L Introduction to Livestock and Meat Evaluation (Sp)	2	
Discipline-related Elective (AFLS Broadening Elective)	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)	3	
Social Sciences Core Elective	3	
Fine Arts/Humanities Core Elective	3	
Year Total:	15	17

Second Year	Units	
	Fall	Spring
CHEM 1073 Fundamentals of Chemistry (ACTS Equivalency = CHEM 1214 Lecture) (Su, Fa) & CHEM 1071L Fundamentals of Chemistry Laboratory (ACTS Equivalency = CHEM 1214 Lab) (Fa)	4	
Fine Arts/Humanities Core Elective	3	
ANSC 3723 Horse and Livestock Merchandising (Fa)	3	
ANSC 3433 Fundamentals of Reproductive Physiology (Fa)	3	
ANSC 2781 Career Preparation and Development (Fa)	1	
ANSC 3072 Equine Selection and Evaluation (Sp)	2	
ANSC 3133 Animal Breeding and Genetics (Sp)	3	
Communication Intensive Elective	3	
Discipline-related Elective (AFLS Broadening Elective)	3	
Select one of the following:	3-4	
CHEM 2613 Organic Physiological Chemistry (ACTS Equivalency = CHEM 1224 Lecture) (Sp, Su, Fa) & CHEM 2611L Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su, Fa) (Or students may select a 3 hour Social Science Core Elective if completing CHEM 3603/3601L in fall of third year.)		
Year Total:	14	15

Third Year	Units	
	Fall	Spring
ANSC 4142 Advanced Animal Handling Techniques (Sp, Fa)	2	
Animal Science Electives	5	
Select one of the following: Social Science Core Elective (Or students may select CHEM 3603 & CHEM 3601L Organic Chemistry I and Lab if completing a Social Science Core in spring of second year.)	3-4	
BIOL 2013 General Microbiology (ACTS Equivalency = BIOL 2004 Lecture) (Sp, Su, Fa) & BIOL 2011L General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa)	4	
ANSC 4173 Thoroughbred Horse Industry (Odd years, Sp) or ANSC 4283 Horse Production (Sp)		3
Animal Science Electives		5
ANSC 3143 Principles of Animal Nutrition (Sp)		3
Social Science Core Elective		3
Discipline-related Elective (AFLS Broadening Electives)		3
Year Total:	14	17

Fourth Year	Units	
	Fall	Spring
Animal Science Elective	3	
ANSC production/management	2	
General Elective	3	
Communication Intensive Elective	3	
History Core Elective	3	
ANSC 4283 Horse Production (Sp) or ANSC 4173 Thoroughbred Horse Industry (Odd years, Sp)		3
ANSC production/management		2
Discipline-related Electives		4
General Electives		5
Year Total:	14	14
Total Units in Sequence:		120

### Minor in Equine Science (EQSC-M)

A minor in Equine Science prepares students for jobs in the equine industry. A student planning to minor in Equine Science should meet with an Animal Science adviser for more information. The Equine Science minor is only available to students outside of the ANSC major.

The minor consists of 19 hours to include the following:

Core Requirements		13
ANSC 1032	Introductory Animal Sciences (Sp, Fa)	
ANSC 3032	Animal Physiology I (Fa)	
ANSC 3133	Animal Breeding and Genetics (Sp) or ANSC 3433 Fundamentals of Reproductive Physiology (Fa)	

ANSC 3143	Principles of Animal Nutrition (Sp)	
ANSC 4283	Horse Production (Sp)	
<b>Core Equine Electives:</b>		<b>6</b>
ANSC 2303	Introduction to Horsemanship (Sp, Fa)	
ANSC 3072	Equine Selection and Evaluation (Sp)	
ANSC 3723	Horse and Livestock Merchandising (Fa)	
ANSC 401V	Internship in Animal Sciences (Sp, Su, Fa)	
ANSC 4123	Legal Issues in Animal Agriculture (Odd years, Sp)	
ANSC 4173	Thoroughbred Horse Industry (Odd years, Sp)	
Total Hours		19

## Minor in Animal Science (ANSC-M)

A minor in Animal Science prepares students for jobs in the animal industries. A student planning to minor in animal science must consult with an Animal Science adviser. The minor consists of 20 hours to include the following:

ANSC 1001L	Introductory to Animal Sciences Laboratory (Sp, Fa)	1
ANSC 1032	Introductory Animal Sciences (Sp, Fa)	2
ANSC 1041	Introduction to Companion Animal Industry (Sp, Fa)	1
	or ANSC 1051 Introduction to the Livestock Industry (Sp, Fa)	
ANSC 2252L	Introduction to Livestock and Meat Evaluation (Sp)	2
ANSC 3133	Animal Breeding and Genetics (Sp)	3
ANSC 3143	Principles of Animal Nutrition (Sp)	3
ANSC 3433	Fundamentals of Reproductive Physiology (Fa)	3
Select two of the following:		<b>5</b>
ANSC 4252	Cow-Calf Management (Fa)	
ANSC 4262	Swine Production (Even years, Fa)	
ANSC 4272	Sheep Production (Odd years, Sp)	
ANSC 4283	Horse Production (Sp)	
ANSC 4452	Milk Production (Sp)	
ANSC 4652	Stocker-Feedlot Cattle Management (Sp)	
Total Hours		20

## Crop Science (CPSC)

### Faculty

**Robert Keith Bacon**, Professor  
**Thomas Barber**, Professor  
**Andrew Bartlett**, Clinical Assistant Professor  
**Fred Bourland**, Professor  
**Kristofor R. Brye**, Professor  
**Nilda Roma Burgos**, Professor  
**Paul Allen Counce**, Professor  
**Michael B. Daniels**, Assistant Professor  
**Leonel A. Espinoza**, Extension Associate Professor  
**Edward E. Gbur Jr.**, Professor  
**Jarrod T. Hardke**, Associate Professor  
**Jason Kelley**, Extension Associate Professor  
**Richard Esten Mason**, Associate Professor  
**Andy Mauromoustakos**, Professor  
**David M. Miller**, Professor  
**Karen Ann-Kuenzel Moldenhauer**, Professor, Rice Industry Chair in Variety Development  
**Philip A. Moore Jr.**, Visiting Associate Professor

**Morteza Mozaffari**, Assistant Professor  
**Richard J. Norman**, Professor  
**Jason Keith Norsworthy**, Professor  
**Andy Pereira**, Professor  
**Larry C. Purcell**, Professor, Ben J. Alzheimer Chair for Soybean Research  
**Michele L. Reba**, Research Associate Professor  
**Trenton L. Roberts**, Assistant Professor  
**Bill Robertson**, Professor  
**Jeremy Ross**, Associate Professor  
**Mary Cathleen Savin**, Professor  
**Robert C. Scott**, Extension Professor  
**Xueyan Sha**, Associate Professor  
**Ehsan Shakiba**, Assistant Professor  
**Andrew N. Sharpley**, Distinguished Professor  
**Jerral V. Skinner**, Lecturer  
**Nathan A. Slaton**, Professor  
**Vibha Srivastava**, Professor  
**Cammy Willett**, Assistant Professor  
**Charles E. Wilson Jr.**, Professor  
**Lisa S. Wood**, Clinical Assistant Professor

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Opportunities for employment and post-graduate study are numerous for graduates of the Department of Crop, Soil, and Environmental Sciences. Crop Science graduates become involved in crop production or find employment in public agencies providing support services for agriculture (e.g., Extension Service, State Plant Board, Natural Resources Conservation Service), or as consultants serving production agriculture, in the agrichemical and seed industries, and in agricultural research programs.

The crop science major includes courses in crop management, production agriculture, plant breeding and genetics, crop and forage production, pest management (weeds, insects, and plant diseases), and soil fertility.

## Requirements for a Major in Crop Science (CPSC)

State minimum core and discipline specific general education requirements.

(Course work that meets state minimum core requirements is in bold.)

### Communication

<b>Select two English Core courses. If exempt, see adviser for communications courses.</b>		<b>6</b>
ENGL 2003	Advanced Composition (Sp, Su, Fa)	3
	or ENGL 3053 Technical and Report Writing (ACTS Equivalency = ENGL 2023) (Sp, Fa)	
COMM 1313	Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3
CSES 3023	Crop, Soil, and Environmental Sciences Colloquium (Fa)	3

### U.S. History or Government

Select one U.S. History Core Course 3

### Mathematics and Computer Science

Select from MATH Core courses 3

Select one of the following:	3
AGME 2903 Agricultural and Human Environmental Sciences Applications of Microcomputers (Sp, Su, Fa) (Students minoring in Agricultural Business should choose AGME 2903.)	
AGST 4023 Principles of Experimentation (Fa)	
STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)	

**Sciences**

BIOL 1543 & BIOL 1541L Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	4
CSES 1203 Introduction to Plant Sciences (Sp, Fa)	3-4
or BIOL 1613 & BIOL 1611L Plant Biology (ACTS Equivalency = BIOL 1034 Lecture) (Sp, Su) and Plant Biology Laboratory (ACTS Equivalency = BIOL 1034 Lab) (Sp, Su)	
CHEM 1103 & CHEM 1101L University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) and University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)	4
or CHEM 1073 Fundamentals of Chemistry (ACTS Equivalency = CHEM 1214 Lecture) (Su, Fa) and Fundamentals of Chemistry Laboratory (ACTS Equivalency = CHEM 1214 Lab) (Fa)	
CHEM 2613 & CHEM 2611L Organic Physiological Chemistry (ACTS Equivalency = CHEM 1224 Lecture) (Sp, Su, Fa) and Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su, Fa)	4

Select one of the following:	3
BIOL 4303 Plant Physiology (Fa)	
ANSC/POSC 3123 Principles of Genetics (Fa)	
BIOL 2323 General Genetics (Sp, Fa)	

**Fine Arts and Humanities**

Select one Fine Arts and one Humanities Core courses	6
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**Social Sciences**

AGEC 1103 Principles of Agricultural Microeconomics (Sp, Su, Fa)	3
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Choose from Social Sciences Core courses (6 hours total, 3 hours must be outside AGEC/ECON discipline) Students minoring in Agricultural Business should choose AGEC 2103.

**CPSC Requirements** 26**General Agronomy** 18

CSES 2103 & CSES 2101L Crop Science (Sp) and Crop Science Laboratory (Sp)	4
CSES 2203 & CSES 2201L Soil Science (Sp, Fa) and Soil Science Laboratory (Sp, Fa)	4
CSES 4013 Advanced Crop Science (Fa)	3
CSES 4224 Soil Fertility (Fa)	4
CSES 462V Internship (Sp, Su, Fa)	3
or CSES 400V Special Problems (Sp, Su, Fa)	

Select 8 hours from the following two groups. At least 6 hours must be from Group A.

**Group A**

CSES 3112 Forage Management (Irregular)	
CSES 3312 Cotton Production (Even years, Fa)	
CSES 3322 Soybean Production (Odd years, Sp)	
CSES 3332 Rice Production (Odd years, Fa)	
CSES 3342 Cereal Grain Production (Even years, Sp)	

**Group B**

CSES 3214 Soil Resources and Nutrient Cycles (Odd years, Sp)	
CSES 355V Soil Profile Description (Fa)	
CSES 400V Special Problems (Sp, Su, Fa)	
CSES 4103 Plant Breeding (Even years, Fa)	
CSES 4303 Bioenergy Feedstock Production (Sp)	
CSES 4253 Soil Classification and Genesis (Odd years, Fa)	
ENSC 3103 Plants and Environmental Restoration (Fa)	
ENSC 3263 Soil and Water Conservation (Fa)	
HORT 2303 Introduction to Turfgrass Management (Fa)	
PLPA 4333 Biotechnology in Agriculture (Fa)	

**Pest Management** 10

ENTO 3013 Introduction to Entomology (Fa)	3
PLPA 3004 Principles of Plant Pathology (Fa)	4
CSES 4133 Ecology and Morphology of Weedy and Invasive Plants (Fa)	3
or CSES 4143 Principles of Weed Control (Sp)	

**Electives for a Minor (Students must declare minor with the Bumpers College Dean's Office)**

Choose 9 hours from Group C or 12 hours from Group D

**Group C (Pest Management Minor)** 9

CSES 4143 Principles of Weed Control (Sp) <small>select course not taken in pest management section above.</small>	
or CSES 4133 Ecology and Morphology of Weedy and Invasive Plants (Fa)	
PLPA 4223 Plant Disease Control (Fa)	
ENTO 4123 Insect Pest Management (Odd years, Sp)	
or ENTO 4113 Advanced Applied Entomology (Even years, Sp)	

**Group D (Agricultural Business minor)** 12

AGEC 2303 Introduction to Agribusiness (Sp, Su, Fa)	
AGEC 3403 Farm Business Management (Sp, Fa)	

Select two of the following: 6

AGEC 3303 Food and Agricultural Marketing (Sp, Su, Fa)	
AGEC 3413 Principles of Environmental Economics (Sp)	
AGEC 3373 Futures and Options Markets (Fa)	
AGEC 4313 Agricultural Business Management (Fa)	

\_\_ 3 hr Controlled Electives from approved list in AGBS minor

**General Electives** 14-18

UNIV 1001 University Perspectives (Sp, Su, Fa) (Required of all new freshmen)	
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**Total Hours** 120

## Crop Science B.S.A. Nine-Semester Degree Program

Because the Crop Science program requires an internship, it doesn't qualify for the Eight-Semester Program. See more about the Eight-

Semester Degree Policy (p. 73) for university requirements of the program.

First Year	Units		
	Fall	Spring	Summer
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3		
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3		
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	4		
History University Core Elective	3		
CSES 1011 Introduction to Crop, Soil, and Environmental Science (Irregular)	1		
CSES 2103 Crop Science (Sp) & CSES 2101L Crop Science Laboratory (Sp)		4	
CSES 1203 Introduction to Plant Sciences (Sp, Fa) or BIOL 1613 and BIOL 1611L		3-4	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa) (If exempt, see adviser for communication courses.)		3	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)		3	
AGEC 1103 Principles of Agricultural Microeconomics (Sp, Su, Fa)		3	
Year Total:	14	16-17	

Second Year	Units		
	Fall	Spring	Summer
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) & CHEM 1101L University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa) or CHEM 1073 and CHEM 1071L	4		
ENGL 2003 Advanced Composition (Sp, Su, Fa) or ENGL 3053 Technical and Report Writing (ACTS Equivalency = ENGL 2023) (Sp, Fa)	3		
Social Science University Core Elective	3		
Fine Arts/Humanities University Core Elective	3		
Select one (1) course from Group A or B on checksheet	2-3		

CHEM 2613 Organic Physiological Chemistry (ACTS Equivalency = CHEM 1224 Lecture) (Sp, Su, Fa) & CHEM 2611L Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su, Fa)	4		
AGME 2903 Agricultural and Human Environmental Sciences Applications of Microcomputers (Sp, Su, Fa) or AGST 4023 Principles of Experimentation (Fa) or STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)	3		
Social Science University Core Elective	3		
Fine Arts/Humanities University Core Elective	3		
Select one (1) course from Group A or B on checksheet	2-3		
Year Total:	15-16	15-16	

Third Year	Units		
	Fall	Spring	Summer
PLPA 3004 Principles of Plant Pathology (Fa)	4		
ENTO 3013 Introduction to Entomology (Fa)	3		
Select one (1) course from Group A or B on checksheet	2-3		
CSES 2203 Soil Science (Sp, Fa) & CSES 2201L Soil Science Laboratory (Sp, Fa)	4		
General Elective	3		
Select one of the following:		3	
BIOL 2323 General Genetics (Sp, Fa)			
BIOL 4303 Plant Physiology (Fa)			
ANSC/POSC 3123 Principles of Genetics (Fa)			
Select one (1) course from Group A or B on checksheet		2-3	
Select one (1) course from Group C or Group D for a minor		3	
General Elective		6	
CSES 462V Internship (Sp, Su, Fa) or CSES 400V Special Problems (Sp, Su, Fa)			3
Year Total:	16-17	14-15	3

Fourth Year	Units		
	Fall	Spring	Summer
CSES 3023 Crop, Soil, and Environmental Sciences Colloquium (Fa)	3		
CSES 4133 Ecology and Morphology of Weedy and Invasive Plants (Fa)	3		

CSES 4224 Soil Fertility (Fa)	4	
Select one (1) course from Group C or Group D for a minor	3	
CSES 4013 Advanced Crop Science (Fa)	3	
Select one (1) course from Group C or two courses from Group D for a minor	3-6	
General Electives	7-8	
Year Total:	13	13-17

Total Units in Sequence: 119-128

### Minor in Crop Science (CPSC-M)

A student planning to minor in Crop Science must notify the program adviser for consultation and more detailed information. The Crop Science Minor consists of 18 semester hours of 2000-level courses or above, including the following:

CSES 2103	Crop Science (Sp)	3
CSES 2203	Soil Science (Sp, Fa)	3
Select 12 hours with at least 4 hours coming from Group A:		12
Group A		
CSES 3112	Forage Management (Irregular)	
CSES 3312	Cotton Production (Even years, Fa)	
CSES 3332	Rice Production (Odd years, Fa)	
CSES 3342	Cereal Grain Production (Even years, Sp)	
Group B		
CSES 3214	Soil Resources and Nutrient Cycles (Odd years, Sp)	
CSES 4013	Advanced Crop Science (Fa)	
CSES 4103	Plant Breeding (Even years, Fa)	
CSES 4133	Ecology and Morphology of Weedy and Invasive Plants (Fa)	
CSES 4143	Principles of Weed Control (Sp)	
CSES 4224	Soil Fertility (Fa)	
Total Hours		18

### Minor in Crop Biotechnology (CPBT-M)

A student planning to minor in Crop Biotechnology must notify the program adviser for consultation and more detailed information. The Crop Biotechnology Minor consists of 16 hours of courses and to include the following:

Select one of the following:		3
BIOL 2323	General Genetics (Sp, Fa)	
ANSC/POSC 3123	Principles of Genetics (Fa)	
PLPA 4333	Biotechnology in Agriculture (Fa)	3
CSES 402V	Special Topics (Irregular)	1-3
Select two of the following:		6
BIOL 4303	Plant Physiology (Fa)	
CHEM 3813	Elements of Biochemistry (Sp, Su, Fa)	
CSES 4103	Plant Breeding (Even years, Fa)	
Total Hours		13-15

## Crop, Soil, and Environmental Sciences (CSES)

### Faculty

**Robert Keith Bacon**, Professor  
**Thomas Barber**, Professor  
**Andrew Bartlett**, Clinical Assistant Professor  
**Fred Bourland**, Professor  
**Kristofor R. Brye**, Professor  
**Nilda Roma Burgos**, Professor  
**Paul Allen Counce**, Professor  
**Michael B. Daniels**, Assistant Professor  
**Leonel A. Espinoza**, Extension Associate Professor  
**Edward E. Gbur Jr.**, Professor  
**Jarrod T. Hardke**, Associate Professor  
**Jason Kelley**, Extension Associate Professor  
**Richard Esten Mason**, Associate Professor  
**Andy Mauromoustakos**, Professor  
**David M. Miller**, Professor  
**Karen Ann-Kuenzel Moldenhauer**, Professor, Rice Industry Chair in Variety Development  
**Philip A. Moore Jr.**, Visiting Associate Professor  
**Morteza Mozaffari**, Assistant Professor  
**Richard J. Norman**, Professor  
**Jason Keith Norsworthy**, Professor  
**Andy Pereira**, Professor  
**Larry C. Purcell**, Professor, Ben J. Alzheimer Chair for Soybean Research  
**Michele L. Reba**, Research Associate Professor  
**Trenton L. Roberts**, Assistant Professor  
**Bill Robertson**, Professor  
**Jeremy Ross**, Associate Professor  
**Mary Cathleen Savin**, Professor  
**Robert C. Scott**, Extension Professor  
**Xueyan Sha**, Associate Professor  
**Ehsan Shakiba**, Assistant Professor  
**Andrew N. Sharpley**, Distinguished Professor  
**Jerral V. Skinner**, Lecturer  
**Nathan A. Slaton**, Professor  
**Vibha Srivastava**, Professor  
**Cammy Willett**, Assistant Professor  
**Charles E. Wilson Jr.**, Professor  
**Lisa S. Wood**, Clinical Assistant Professor

Robert K. Bacon  
 Head of the Department  
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 479-575-2354  
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Courses in the Department of Crop, Soil, and Environmental Sciences provide fundamental and applied studies in two majors:

- Crop Science (p. 122)
- Environmental, Soil, and Water Science (p. 126)

Areas studied within the Crop Science major include crop science, production agriculture, plant breeding and genetics, crop and forage production, pest management (weeds, insects, and plant diseases), and soil fertility. The Environmental, Soil, and Water Science major includes courses in areas such as environmental science, water quality, soil

science, soil and water conservation, and the sustainable productivity of natural resources.

Many graduates from both majors also choose to continue their education in graduate programs in a wide variety of disciplines both related and complementary to the B.S.A. degrees.

## Entomology (ENTO)

### Faculty

**Ashley Patrick Gregg Dowling**, Associate Professor  
**Fiona Goggin**, Professor  
**John D. Hopkins**, Associate Professor  
**Donn T. Johnson**, Professor  
**Neelendra Joshi**, Assistant Professor  
**Kelly M. Loftin**, Associate Professor  
**Gus M. Lorenz**, Distinguished Professor  
**Tanja McKay**, Associate Professor  
**Nick Seiter**, Assistant Professor  
**Donald C. Steinkraus**, Professor  
**Fred M. Stephen**, University Professor  
**Glenn Studebaker**, Associate Professor  
**Allen Lawrence Szalanski**, Professor  
**Tina G. Teague**, Professor  
**Robert N. Wiedenmann**, Professor

Richard Roeder, Interim Head of the Department  
 319 Agriculture Building  
 479-575-2451  
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Entomology is the branch of science concerned with the study of insects and related organisms. It involves studies of their biology, structure, identification, economic significance, and population management. The major emphasis of the curriculum is understanding insect biology and applying that knowledge in an integrated approach to insect-pest management.

Entomology is a graduate degree at the University of Arkansas. Undergraduate students interested in entomology can pursue a minor in entomology or pest management.

### Minor in Entomology (ENTO-M)

The Entomology minor will consist of a minimum of 15 semester hours to include the following:

ENTO 3013	Introduction to Entomology (Fa)	3
ENTO 4024	Insect Diversity and Taxonomy (Even years, Fa)	4
Select three of the following:		8-9
ENTO 4013	Insect Behavior and Chemical Ecology (Even years, Sp)	
ENTO 4043	Apiculture (Odd years, Sp)	
ENTO 4053	Insect Ecology (Even years, Fa)	
ENTO 4133	Advanced Applied Entomology (Even years, Sp)	
ENTO 400V	Special Problems (Sp, Su, Fa)	
Total Hours		15-16

## Environmental, Soil, and Water Science (ESWS)

### Faculty

**Robert Keith Bacon**, Professor  
**Thomas Barber**, Professor  
**Andrew Bartlett**, Clinical Assistant Professor  
**Fred Bourland**, Professor  
**Kristofor R. Brye**, Professor  
**Nilda Roma Burgos**, Professor  
**Paul Allen Counce**, Professor  
**Michael B. Daniels**, Assistant Professor  
**Leonel A. Espinoza**, Extension Associate Professor  
**Edward E. Gbur Jr.**, Professor  
**Jarrod T. Hardke**, Associate Professor  
**Jason Kelley**, Extension Associate Professor  
**Richard Esten Mason**, Associate Professor  
**Andy Mauromoustakos**, Professor  
**David M. Miller**, Professor  
**Karen Ann-Kuenzel Moldenhauer**, Professor, Rice Industry Chair in Variety Development  
**Philip A. Moore Jr.**, Visiting Associate Professor  
**Morteza Mozaffari**, Assistant Professor  
**Richard J. Norman**, Professor  
**Jason Keith Norsworthy**, Professor  
**Andy Pereira**, Professor  
**Larry C. Purcell**, Professor, Ben J. Alzheimer Chair for Soybean Research  
**Michele L. Reba**, Research Associate Professor  
**Trenton L. Roberts**, Assistant Professor  
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**Mary Cathleen Savin**, Professor  
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**Xueyan Sha**, Associate Professor  
**Ehsan Shakiba**, Assistant Professor  
**Andrew N. Sharpley**, Distinguished Professor  
**Jerral V. Skinner**, Lecturer  
**Nathan A. Slaton**, Professor  
**Vibha Srivastava**, Professor  
**Cammy Willett**, Assistant Professor  
**Charles E. Wilson Jr.**, Professor  
**Lisa S. Wood**, Clinical Assistant Professor

Mary C. Savin  
 ESWS Coordinator  
 115 Plant Science Building  
 479-575-5740

Opportunities for employment and post-graduate study are numerous for graduates of the Department of Crop, Soil, and Environmental Sciences. Environmental, Soil, and Water Science graduates find jobs with environmental consulting companies, environmental education organizations, state agencies (e.g., Extension Service, Department of Environmental Quality, Health Department), federal agencies (e.g., Environmental Protection Agency, Natural Resources Conservation Service), municipalities and local environmental services (e.g., waste management and recycling, water and wastewater treatment facilities, parks and tourism departments), a wide variety of private businesses, and environmental research.



The Environmental, Soil, and Water Science major includes courses in areas such as environmental science, water quality, soil science, soil and water conservation, and the sustainable productivity of natural resources.

## Requirements for a Major in Environmental, Soil, and Water Science (ESWS)

State minimum core and discipline specific general education requirements:

(Course work that meets state minimum core requirements is in bold.)

UNIV 1001	University Perspectives (Sp, Su, Fa) (Counts as General Elective)	1
<b>Communication</b>		
<b>Choose from English Core course (6 hours) If exempt, see adviser for communication courses.</b>		6
COMM 1313	Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3
CSES 3023	Crop, Soil, and Environmental Sciences Colloquium (Fa)	3
	or AGED 3143 Communicating Agriculture to the Public (Sp, Su, Fa)	
<b>U.S. History and Government</b>		
<b>One U.S. History Core Courses</b>		3
<b>Mathematics</b>		
MATH 1203	College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3
MATH 1213	Plane Trigonometry (ACTS Equivalency = MATH 1203) (Sp, Su, Fa) (Higher level MATH is encouraged for students with an ACT of 26 or higher and considering graduate school.)	3
Select one of the following:		3
AGST 4023	Principles of Experimentation (Fa)	
STAT 2023	Biostatistics (Sp)	
STAT 2303	Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)	
<b>Sciences</b>		
BIOL 1543 & BIOL 1541L	Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	4
BIOL 2013 & BIOL 2011L	General Microbiology (ACTS Equivalency = BIOL 2004 Lecture) (Sp, Su, Fa) and General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa)	4
BIOL 3863 & BIOL 3861L	General Ecology (Sp, Fa) and General Ecology Laboratory (Fa)	4
	or ENSC 3223 Ecosystems Assessment (Even years, Fa) & ENSC 3221L and Ecosystems Assessment Laboratory (Even years, Fa)	
CSES 1203	Introduction to Plant Sciences (Sp, Fa)	3
CHEM 1103 & CHEM 1101L	University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) and University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)	4
CHEM 1123 & CHEM 1121L	University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) and University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)	4

CHEM 2613 & CHEM 2611L	Organic Physiological Chemistry (ACTS Equivalency = CHEM 1224 Lecture) (Sp, Su, Fa) and Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su, Fa)	4
	or CHEM 3603 Organic Chemistry I (Su, Fa) & CHEM 3601L and Organic Chemistry I Laboratory (Su, Fa)	
GEOS 1113 & GEOS 1111L	General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa) and General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)	4
PHYS 2013 & PHYS 2011L	College Physics I (ACTS Equivalency = PHYS 2014 Lecture) (Su, Fa) and College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab) (Su, Fa)	4
<b>Fine Arts and Humanities</b>		
<b>Select one Fine Arts and one Humanities Core Course</b>		6
<b>Social Sciences</b>		
<b>Select three Social Sciences Core Courses</b>		9
<b>ESWS Requirements</b>		
<b>Environmental Science Core</b>		11
CSES 2203	Soil Science (Sp, Fa)	
CSES 2201L	Soil Science Laboratory (Sp, Fa)	
ENSC 1003	Environmental Science (Sp, Fa)	
ENSC 1001L	Environmental Science Laboratory (Sp, Fa)	
ENSC 3003	Introduction to Water Science (Sp)	
<b>Soil Science Core</b>		
Select one of the following:		3-4
CSES 3214	Soil Resources and Nutrient Cycles (Odd years, Sp) (with Lab Component)	
CSES 4224	Soil Fertility (Fa) (with Lab Component)	
CSES 4253	Soil Classification and Genesis (Odd years, Fa) (with Lab Component)	
ENSC 4263	Environmental Soil Science (Even years, Sp) (with Lab Component)	
<b>Water Science Core</b>		
Select one of the following:		3
ENSC 4023	Water Quality (Fa)	
GEOS 3333	Oceanography (Even years, Sp)	
GEOS 4033	Hydrogeology (Sp)	
<b>Natural Resources Core</b>		
Select 12 hours from the following two groups:		12
<b>Environmental Science</b>		
AGME 3153	Surveying in Agriculture and Forestry (Fa)	
CSES 2013	Pest Management (Sp)	
CSES 355V	Soil Profile Description (Fa) (1 hour, may take twice)	
CSES 462V	Internship (Sp, Su, Fa) (1-6 credit hours)	
CSES 4553	Wetland Soils (Odd years, Sp)	
ENSC 3103	Plants and Environmental Restoration (Fa)	
ENSC 3263	Soil and Water Conservation (Fa)	
ENSC 3603	GIS for Environmental Science (Odd Years, Sp)	
ENSC 4021L	Water Quality Laboratory (Fa)	
ENSC 4034	Analysis of Environmental Contaminants (Even years, Sp)	

ENSC 4401	Professional Certification Preparation (Sp)	
GEOS 3043	Sustaining Earth (Sp, Su, Fa)	
GEOS 3543	Geospatial Applications and Information Science (Sp, Fa)	
<b>Environmental Studies (maximum of 6 hours)</b>		
AGEC 3413	Principles of Environmental Economics (Sp)	
AGEC 3503	Agricultural Law I (Fa)	
AGEC 3523	Environmental and Natural Resources Law (Even years, Sp)	
ENSC 3933	Environmental Ethics (Odd years, Sp)	
SOCI 4603	Environmental Sociology (Sp)	
General Electives		16-17
<b>Total Hours</b>		<b>120</b>

## Environmental, Soil, and Water Science B.S.A.

### Eight-Semester Degree Program

Students wishing to follow the degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
ENSC 1003 Environmental Science (Sp, Fa) & ENSC 1001L Environmental Science Laboratory (Sp, Fa)	4	
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	4	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3	
UNIV 1001 University Perspectives (Sp, Su, Fa)	1	
Fine Arts/Humanities University Core Elective		3
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
CSES 1203 Introduction to Plant Sciences (Sp, Fa)		3
Social Sciences University Core Elective		3
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) & CHEM 1101L University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)		4
<b>Year Total:</b>	<b>15</b>	<b>16</b>

Second Year	Units	
	Fall	Spring
General Elective as Broadening Elective (could apply toward a minor)	3	
GEOS 1113 General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa) & GEOS 1111L General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)	4	
History University Core Elective		3

COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3	
MATH 1213 Plane Trigonometry (ACTS Equivalency = MATH 1203) (Sp, Su, Fa)	3	
CHEM 1123 University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) & CHEM 1121L University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)		4
Fine Arts/Humanities University Core Elective		3
Social Sciences University Core Elective		3
ENSC 3003 Introduction to Water Science (Sp)		3
General Elective (Could apply elective toward a minor)		3
<b>Year Total:</b>	<b>16</b>	<b>16</b>

Third Year	Units	
	Fall	Spring
CSES 2203 Soil Science (Sp, Fa) & CSES 2201L Soil Science Laboratory (Sp, Fa)	4	
PHYS 2013 College Physics I (ACTS Equivalency = PHYS 2014 Lecture) (Su, Fa) & PHYS 2011L College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab) (Su, Fa)	4	
Water Science or Natural Resources Core		3
Select one of the following:		3-4
General Electives as AFLS Broadening Electives (Could apply toward a minor)		
CHEM 3603 Organic Chemistry I (Su, Fa) & CHEM 3601L Organic Chemistry I Laboratory (Su, Fa)		
BIOL 2013 General Microbiology (ACTS Equivalency = BIOL 2004 Lecture) (Sp, Su, Fa) & BIOL 2011L General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa)		4
CHEM 2613 Organic Physiological Chemistry (ACTS Equivalency = CHEM 1224 Lecture) (Sp, Su, Fa) & CHEM 2611L Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su, Fa)		4
Social Sciences Core Elective		3
Water Science or Soil Science Core (For Water Science: Recommended: ENSC 3003; Soil Science: Pre-at least CSES 2203)		3-4
<b>Year Total:</b>	<b>14</b>	<b>14</b>

Fourth Year	Units	
	Fall	Spring
Select one of the following:		3
CSES 3023 Crop, Soil, and Environmental Sciences Colloquium (Fa)		
AGED 3143 Communicating Agriculture to the Public (Sp, Su, Fa)		
Select one of the following:		4

ENSC 3223 Ecosystems Assessment (Even years, Fa) & ENSC 3221L Ecosystems Assessment Laboratory (Even years, Fa) BIOL 3863 General Ecology (Sp, Fa) & BIOL 3861L General Ecology Laboratory (Fa)		
Statistics or Natural Resources Core	3	
Soil Science or Natural Resources Core	3-4	
Natural Resources Core or General Elective (Could apply elective toward a minor)	3	
Natural Resources Core or General Elective	3	
Statistics or Natural Resources Core	3	
General Elective or Natural Resources Core	3	
General Elective as Broadening Elective (Could apply toward a minor)	2-3	
General Elective (May wish to take another elective. Could apply toward a minor)	2-3	
Year Total:	16	13

Total Units in Sequence: 120

## Minor in Natural Resources Management (NRMT-M)

A student planning to minor in Natural Resources Management must notify the program adviser for consultation and more detailed information. No more than 9 hours can be counted towards a Natural Resources Management minor with an ESWS major. The Natural Resources Management Minor consists of 18 hours to include the following:

### Required courses 7

ENSC 1003 Environmental Science (Sp, Fa)	
ENSC 1001L Environmental Science Laboratory (Sp, Fa)	
CSES 2203 Soil Science (Sp, Fa) or ENSC 30(Introduction to Water Science (Sp))	
Optional courses (11 hours, at least 8 hours must be 3000-level or above)	11
AGEC 3413 Principles of Environmental Economics (Sp)	
AGEC 3503 Agricultural Law I (Fa)	
AGEC 3523 Environmental and Natural Resources Law (Even years, Sp)	
BIOL 3863 General Ecology (Sp, Fa) & BIOL 3861L and General Ecology Laboratory (Fa)	
CSES 1203 Introduction to Plant Sciences (Sp, Fa)	
CSES 2013 Pest Management (Sp)	
CSES 2201L Soil Science Laboratory (Sp, Fa)	
CSES 3214 Soil Resources and Nutrient Cycles (Odd years, Sp)	
CSES 355V Soil Profile Description (Fa)	
CSES 4013 Advanced Crop Science (Fa)	
CSES 4133 Ecology and Morphology of Weedy and Invasive Plants (Fa)	
CSES 4224 Soil Fertility (Fa)	
CSES 4253 Soil Classification and Genesis (Odd years, Fa)	
CSES 4553 Wetland Soils (Odd years, Sp)	
CSES 462V Internship (Sp, Su, Fa)	

ENSC 3103 Plants and Environmental Restoration (Fa)	
ENSC 3223 Ecosystems Assessment (Even years, Fa) & ENSC 3221L and Ecosystems Assessment Laboratory (Even years, Fa)	
ENSC 3263 Soil and Water Conservation (Fa)	
ENSC 3603 GIS for Environmental Science (Odd Years, Sp)	
ENSC 4021L Water Quality Laboratory (Fa)	
ENSC 4023 Water Quality (Fa)	
ENSC 4034 Analysis of Environmental Contaminants (Even years, Sp)	
ENSC 4263 Environmental Soil Science (Even years, Sp)	
ENSC 4401 Professional Certification Preparation (Sp)	
GEOS 3043 Sustaining Earth (Sp, Su, Fa)	
GEOS 3543 Geospatial Applications and Information Science (Sp, Fa)	
Total Hours	18

## Minor in Soil Science (SOIL-M)

A student planning to minor in Soil Science must notify the program adviser for consultation and more detailed information.

The Soil Science minor will consist of a total of 18 hours comprising the following required and elective courses. No more than 9 hours can be counted towards a Soil Science minor with an Environmental Soil and Water Science major. Those students interested in obtaining certification in the area of soil science will need at least 15 soil science hours, preferably covering each of the sub-disciplines (i.e., fertility, genesis, morphology, and classification, chemistry, physics, soil biology and ecology, and land use and management).

### Required Courses

CSES 2203 Soil Science (Sp, Fa) & CSES 2201L and Soil Science Laboratory (Sp, Fa)	4
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### Elective Courses 14

Select the remaining 14 hours from the following courses:

Undergraduate Courses	
CSES 3214 Soil Resources and Nutrient Cycles (Odd years, Sp)	
CSES 355V Soil Profile Description (Fa) (1 hour; may be taken for up to 2 hours credit)	
CSES 4224 Soil Fertility (Fa)	
CSES 4253 Soil Classification and Genesis (Odd years, Fa)	
CSES 4553 Wetland Soils (Odd years, Sp)	
ENSC 3263 Soil and Water Conservation (Fa)	
ENSC 4263 Environmental Soil Science (Even years, Sp)	
ENSC 4401 Professional Certification Preparation (Sp) (soils exam)	
Graduate Courses	
CSES 5033 Advanced Soil Fertility and Plant Nutrition (Sp)	
CSES 5224 Soil Physics (Sp)	
CSES 5264 Microbial Ecology (Odd years, Fa)	
CSES 5453 Soil Chemistry (Even years, Sp)	

Total Hours 18

# Food Science (FDSC)

## Faculty

**Griffiths Odhiambo Atungulu**, Assistant Professor  
**Jamie I. Baum**, Assistant Professor  
**Franck Carbonero**, Assistant Professor  
**Philip G. Crandall**, Professor  
**Kristen Elizabeth Gibson**, Associate Professor  
**Navam S. Hettiarachchy**, University Professor  
**Luke R. Howard**, Professor  
**Sun-Ok Lee**, Associate Professor  
**Jean-François Meullenet**, Professor, Endowed Professorship in Food Sensory Science  
**Ruben O. Morawicki**, Associate Professor  
**Andy Proctor**, University Professor  
**Steven C. Ricke**, Professor, Donald "Buddy" Wray Chair in Food Safety  
**Han-Seok Seo**, Associate Professor  
**Terrence J. Siebenmorgen**, Distinguished Professor  
**Ya-Jane Wang**, Professor

Jean-François Meullenet  
 Head of the Department  
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 479-575-4605

Department of Food Science Website (<http://food-science.uark.edu>)

Food science is the application of science and technology to processing, packaging, safety, product invention and distribution of food products. Food science deals with all aspects of food between production and consumption and involves many disciplines, including chemistry, microbiology, nutrition, engineering and sensory science.

Food science prepares students for many interesting, rewarding and challenging professional career opportunities in industry, business, governmental and educational organizations associated with food and food-related products. Due to the diversity and abundance of opportunities available, students graduating with a B.S.A. in food science readily obtain employment or continue studies for graduate school. Additionally, requirements for several pre-professional programs can be fulfilled while meeting requirements for the food science degree.

Students may choose one of three areas of concentration for their degree program: Food Science (FDSC), Food Technology (FDTN) or Food and Culinary Sciences (FDCU). The FDSC concentration at the University of Arkansas is one of only 40 programs in the United States and the only one in Arkansas that is approved by the Institute of Food Technologists. It provides students with a strong background in basic and applied sciences and food chemistry, microbiology, analysis, quality and engineering.

The FDTN concentration provides students interested in food industry careers with an integrated background in food science and business or nutrition. Students in the food technology concentration will complete a minor in agribusiness, general business, or nutrition while completing their core requirements, thus leaving elective hours available for further educational enhancement.

The FDCU concentration provides students interested in product development careers with an interdisciplinary background in food science and culinary arts. This concentration is a partnership program with Northwest Arkansas Community College (NWACC). Students complete their culinary arts coursework on the NWACC campus for transfer credit to the UA and are eligible to receive a Certificate of Proficiency in Culinary

Arts from NWACC with no additional coursework. Culinary coursework can be taken prior to admission to the UA or taken while in residence at the UA. Food and Culinary Sciences concentration will provide students with the course work necessary to be eligible to become a Certified Culinary Scientist through the Research Chef's Association.

Students in each concentration are offered opportunities for research, internships, international experiences and selection of a minor.

## Requirements for a Major in Food Science (FDSC)

State minimum core and discipline specific general education requirements:

(Course work that meets state minimum core requirements is in bold.)

### Communication (6-12 hours)

ENGL 1013	Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa) (unless exempt)	3
ENGL 1023	Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa) (unless exempt)	3

Select two courses from approved list of communication intensive courses (FDCU must choose 3000-4000 level courses) 6

### U.S. History and Government (3 hours)

Select one U.S. History Core courses 3

### Mathematics and Statistics (9-13 hours)

MATH 1203	College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3
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FDSC Concentration: 10

MATH 1213	Plane Trigonometry (ACTS Equivalency = MATH 1203) (Sp, Su, Fa)	
MATH 2554	Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	

Select one of the following:

STAT 2303	Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)	
STAT 2023	Biostatistics (Sp)	
AGST 4023	Principles of Experimentation (Fa)	

FDTN Concentration: 6-9

MATH 2043	Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)	
MATH 2053	Finite Mathematics (Sp, Su, Fa) (for students declaring Agricultural Business or General Business minors only)	

Select one of the following:

AGEC 2403	Quantitative Tools for Agribusiness (Fa)	
WCOB 1033	Data Analysis and Interpretation (Sp, Su, Fa)	
STAT 2303	Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)	
AGST 4023	Principles of Experimentation (Fa)	

FDCU Concentration: 6

MATH 2043	Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)	
STAT 2303	Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)	

### Physical and Biological Sciences (20-31 hours)

BIOL 1543 & BIOL 1541L	Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	4
BIOL 2013 & BIOL 2011L	General Microbiology (ACTS Equivalency = BIOL 2004 Lecture) (Sp, Su, Fa) and General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa)	4
CHEM 1103 & CHEM 1101L	University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) and University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)	4
CHEM 1123 & CHEM 1121L	University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) and University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)	4

Select one of the following concentrations:

FDSC Concentration: 11-15

CHEM 2613 Organic Physiological Chemistry (ACTS & CHEM 2611L Equivalency = CHEM 1224 Lecture) (Sp, Su, Fa) and Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su, Fa)

or CHEM 36 Organic Chemistry I (Su, Fa) & CHEM 36 Organic Chemistry I Laboratory (Su, Fa) & CHEM 36 Organic Chemistry II (Sp, Su) & CHEM 36 Organic Chemistry II Laboratory (Sp, Su)

CHEM 3813 Elements of Biochemistry (Sp, Su, Fa)

PHYS 2013 College Physics I (ACTS Equivalency = PHYS & PHYS 2011L 2014 Lecture) (Su, Fa) and College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab) (Su, Fa)

FDTN Concentration: 4-7

CHEM 2613 Organic Physiological Chemistry (ACTS & CHEM 2611L Equivalency = CHEM 1224 Lecture) (Sp, Su, Fa) and Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su, Fa)

CHEM 3813 Elements of Biochemistry (Sp, Su, Fa) (for students declaring General Foods and Nutrition minor only)

FDCU Concentration: 4

CHEM 2613 Organic Physiological Chemistry (ACTS & CHEM 2611L Equivalency = CHEM 1224 Lecture) (Sp, Su, Fa) and Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su, Fa)

#### Fine Arts and Humanities (6 hours)

Select two Fine Arts, Humanities Core courses 6

#### Social Sciences (9 hours)

Select three Social Science Core courses 9

Students declaring Agricultural Business minor must take AGEC 1103 Agricultural Microeconomics and students declaring General Business minor must take ECON 2143 Basic Economics - Theory & Practice, or both ECON 2013 Macroeconomics and ECON 2023 Microeconomics

#### FDSC Degree Requirements (26 hours)

UNIV 1001 University Perspectives (Sp, Su, Fa) 1

FDSC 1011	Exploring Topics in Food Science (Fa)	1
FDSC 1103	Introduction to Food Science (Sp)	3
FDSC 3103	Principles of Food Processing (Fa)	3
FDSC 3202	Introduction to Food Law (Sp)	2
FDSC 4304	Food Chemistry (Fa)	4
FDSC 4113 & FDSC 4111L	Food Analysis (Sp) and Food Analysis Lab (Sp)	4
FDSC 431V	Internship in Food Science (Sp, Su, Fa)	3
FDSC 4413	Sensory Evaluation of Food (Fa)	3
FDSC 4713	Product Innovation for the Food Scientist (Sp)	3
General Electives (9-19 hours)		9-19

#### Additional Requirements for Food Science Concentration (10 hours)

NUTR 1213	Fundamentals of Nutrition (Sp, Fa)	3
FDSC 4122 & FDSC 4121L	Food Microbiology (Fa) and Food Microbiology Lab (Fa)	3
FDSC 4754	Engineering Principles of Food Processing (Even years, Sp)	4

## Food Science B.S.A., Food Science Concentration Nine-Semester Degree Program

Because the Food Science Concentration requires an internship one summer, students cannot enroll in an Eight-Semester Program. See the Eight-Semester Degree Policy (p. 73) for requirements of the eight-semester programs.

First Year	Units		
	Fall	Spring	Summer
UNIV 1001 University Perspectives (Sp, Su, Fa)	1		
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	4		
FDSC 1011 Exploring Topics in Food Science (Fa)	1		
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3		
University Core in Fine Arts/Humanities or Social Science or History	3		
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3		
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3	
MATH 1213 Plane Trigonometry (ACTS Equivalency = MATH 1203) (Sp, Su, Fa)		3	

CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) & CHEM 1101L University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)	4	
University Core in Fine Arts/Humanities or Social Science or History	3	
FDSC 1103 Introduction to Food Science (Sp)	3	
Year Total:	15	16

**Second Year**

	Fall	Spring	Summer	Units
CHEM 1123 University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) & CHEM 1121L University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)	4			
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	4			
Select one of the following:	3			
FDSC 2603 Science in the Kitchen (Fa) (recommended elective)				
General Elective				
NUTR 1213 Fundamentals of Nutrition (Sp, Fa)	3			
BIOL 2013 General Microbiology (ACTS Equivalency = BIOL 2004 Lecture) (Sp, Su, Fa) & BIOL 2011L General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa)		4		
CHEM 2613 Organic Physiological Chemistry (ACTS Equivalency = CHEM 1224 Lecture) (Sp, Su, Fa) & CHEM 2611L Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su, Fa)		4		
Communication Intensive Elective (from approved list of courses)		3		
University Core in Fine Arts/Humanities or Social Science or History		3		
Select one of the following:		1		
FDSC 2701 Food for Health (Sp) (recommended)				
General Elective				
Year Total:	14	15		

**Third Year**

	Fall	Spring	Summer	Units
FDSC 4122 Food Microbiology (Fa) & FDSC 4121L Food Microbiology Lab (Fa)	3			

PHYS 2013 College Physics I (ACTS Equivalency = PHYS 2014 Lecture) (Su, Fa) & PHYS 2011L College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab) (Su, Fa)	4	
Select one of the following:	3	
STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)		
STAT 2023 Biostatistics (Sp)		
AGST 4023 Principles of Experimentation (Fa)		

FDSC 4304 Food Chemistry (Fa)	4		
Communication Intensive Elective (from approved list of courses)		3	
FDSC 3202 Introduction to Food Law (Sp)		2	
FDSC 4113 Food Analysis (Sp) & FDSC 4111L Food Analysis Lab (Sp)		4	
FDSC 4754 Engineering Principles of Food Processing (Even years, Sp)		4	
University Core in Fine Arts/Humanities or Social Science or History		3	
FDSC 431V Internship in Food Science (Sp, Su, Fa)			3
Year Total:	14	16	3

**Fourth Year**

	Fall	Spring	Summer	Units
FDSC 3103 Principles of Food Processing (Fa)	3			
FDSC 4413 Sensory Evaluation of Food (Fa)	3			
University Core in Fine Arts/Humanities or Social Science or History	3			
General Elective	6			
CHEM 3813 Elements of Biochemistry (Sp, Su, Fa)		3		
FDSC 4713 Product Innovation for the Food Scientist (Sp)		3		
University Core in Fine Arts/Humanities or Social Science or History		3		
General Elective		3		
Year Total:	15	12		

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Total Units in Sequence: 120

**Requirements for a Major in Food Science (FDSC)**

State minimum core and discipline specific general education requirements:

(Course work that meets state minimum core requirements is in bold.)

**Communication (6-12 hours)**

ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) 3  
(Sp, Su, Fa) (unless exempt)

ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) 3  
(Sp, Su, Fa) (unless exempt)

Select two courses from approved list of communication intensive courses (FDCU must choose 3000-4000 level courses) 6

### U.S. History and Government (3 hours)

Select one U.S. History Core courses 3

### Mathematics and Statistics (9-13 hours)

MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) 3

FDESC Concentration: 10

MATH 1213 Plane Trigonometry (ACTS Equivalency = MATH 1203) (Sp, Su, Fa)

MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)

Select one of the following:

STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)

STAT 2023 Biostatistics (Sp)

AGST 4023 Principles of Experimentation (Fa)

FDTN Concentration: 6-9

MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)

MATH 2053 Finite Mathematics (Sp, Su, Fa) (for students declaring Agricultural Business or General Business minors only)

Select one of the following:

AGEC 2403 Quantitative Tools for Agribusiness (Fa)

WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa)

STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)

AGST 4023 Principles of Experimentation (Fa)

FDCU Concentration: 6

MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)

STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)

### Physical and Biological Sciences (20-31 hours)

BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL & BIOL 1541L 1014 Lecture) (Sp, Su, Fa) 4  
and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)

BIOL 2013 General Microbiology (ACTS Equivalency = BIOL & BIOL 2011L 2004 Lecture) (Sp, Su, Fa) 4  
and General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa)

CHEM 1103 University Chemistry I (ACTS Equivalency = & CHEM 1101L CHEM 1414 Lecture) (Su, Fa) 4  
and University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)

CHEM 1123 University Chemistry II (ACTS Equivalency = & CHEM 1121L CHEM 1424 Lecture) (Sp, Su, Fa) 4  
and University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)

Select one of the following concentrations:

FDESC Concentration: 11-15

CHEM 2613 Organic Physiological Chemistry (ACTS & CHEM 2611L Equivalency = CHEM 1224 Lecture) (Sp, Su, Fa) and Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su, Fa)

or CHEM 36 Organic Chemistry I (Su, Fa) & CHEM 36 (and Organic Chemistry I Laboratory) (Su, Fa) & CHEM 36 (and Organic Chemistry II) (Sp, Su) & CHEM 36 (and Organic Chemistry II Laboratory) (Sp, Su)

CHEM 3813 Elements of Biochemistry (Sp, Su, Fa)

PHYS 2013 College Physics I (ACTS Equivalency = PHYS & PHYS 2011L 2014 Lecture) (Su, Fa) and College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab) (Su, Fa)

FDTN Concentration: 4-7

CHEM 2613 Organic Physiological Chemistry (ACTS & CHEM 2611L Equivalency = CHEM 1224 Lecture) (Sp, Su, Fa) and Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su, Fa)

CHEM 3813 Elements of Biochemistry (Sp, Su, Fa) (for students declaring General Foods and Nutrition minor only)

FDCU Concentration: 4

CHEM 2613 Organic Physiological Chemistry (ACTS & CHEM 2611L Equivalency = CHEM 1224 Lecture) (Sp, Su, Fa) and Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su, Fa)

### Fine Arts and Humanities (6 hours)

Select two Fine Arts, Humanities Core courses 6

### Social Sciences (9 hours)

Select three Social Science Core courses 9

Students declaring Agricultural Business minor must take AGECEC 1103 Agricultural Microeconomics and students declaring General Business minor must take ECON 2143 Basic Economics - Theory & Practice, or both ECON 2013 Macroeconomics and ECON 2023 Microeconomics

### FDESC Degree Requirements (26 hours)

UNIV 1001 University Perspectives (Sp, Su, Fa) 1

FDESC 1011 Exploring Topics in Food Science (Fa) 1

FDESC 1103 Introduction to Food Science (Sp) 3

FDESC 3103 Principles of Food Processing (Fa) 3

FDESC 3202 Introduction to Food Law (Sp) 2

FDESC 4304 Food Chemistry (Fa) 4

FDESC 4113 Food Analysis (Sp) & FDESC 4111L and Food Analysis Lab (Sp) 4

FDESC 431V Internship in Food Science (Sp, Su, Fa) 3

FDESC 4413 Sensory Evaluation of Food (Fa) 3

FDESC 4713 Product Innovation for the Food Scientist (Sp) 3

General Electives (9-19 hours) 9-19

### Additional Requirements for Food Technology Concentration (18-21 hours)

Select one of the following: 3

FDESC 2503 Food Safety and Sanitation (Sp, Fa)

FDSC 2523	Sanitation and Safety in Food Processing Operations (Irregular)	
FDSC 4122	Food Microbiology (Fa)	
	& FDSC 4121L and Food Microbiology Lab (Fa)	
Complete one of the following options (students must declare chosen minor with Bumpers College Dean's Office)		
Option 1: Agribusiness Minor (AGBS-M)		15
ISYS 1120	Computer Competency Requirement (Sp, Su, Fa)	
AGEC 2142	Agribusiness Financial Records (Sp, Fa)	
	& AGECE 2141L and Agribusiness Financial Records Lab (Sp, Fa)	
AGEC 2303	Introduction to Agribusiness (Sp, Su, Fa)	
AGEC 3303	Food and Agricultural Marketing (Sp, Su, Fa)	
AGEC 4313	Agricultural Business Management (Fa)	
Select one 3000-4000 level business course from the departmental codes: ACCT, AGECE, ECON, FINN, ISYS, MGMT, MKTG, SPCM or WCOB		
Option 2: General Business Minor (GBUS-M)		15
ISYS 1120	Computer Competency Requirement (Sp, Su, Fa)	
ACCT 2013	Accounting Principles (Sp, Su, Fa)	
MGMT 3563	Management Concepts and Organizational Behavior (Irregular)	
MKTG 3433	Introduction to Marketing (Sp, Su, Fa)	
Select two 3000-4000 level Walton College courses chosen from department codes: ACCT, ECON, FINN, ISYS, MGMT, MKTG, SPCM or WCOB		
Option 3: General Foods and Nutrition Minor (GFNU-M)		18
NUTR 1213	Fundamentals of Nutrition (Sp, Fa)	
NUTR 2112	Principles of Foods (Sp, Fa)	
	& NUTR 2111L and Principles of Foods Laboratory (Sp, Fa)	
NUTR 3203	Human Nutrition (Sp)	
NUTR 4213	Advanced Nutrition (Fa)	
Select two of the following:		
NUTR 2203	Sports Nutrition (Sp, Fa)	
NUTR 4223	Life Cycle Nutrition (Fa)	
NUTR 4243	Community Nutrition (Sp)	

University Core in Fine Arts/Humanities or Social Science or History	3	
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
FDSC 1011 Exploring Topics in Food Science (Fa)	1	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3	
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa)	4	
& CHEM 1101L University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)		
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)	3	
Select one of the following:	3	
Business minors only:		
AGEC 1103 Principles of Agricultural Microeconomics (Sp, Su, Fa)		
or ECON 2143 Basic Economics: Theory and Practice (Sp, Su, Fa)		
Nutrition minors only:		
University Core in Social Science		
Select one of the following:	3	
Business minors only:		
ISYS 1120 Computer Competency Requirement (Sp, Su, Fa)		
& MATH 2053 Finite Mathematics (Sp, Su, Fa)		
Nutrition minors only		
NUTR 1213 Fundamentals of Nutrition (Sp, Fa)		
FDSC 1103 Introduction to Food Science (Sp)	3	
Year Total:	15	16

## Food Science B.S.A., Food Technology Concentration

### Nine-Semester Degree Program

Because the Food Technology Concentration requires an internship one summer, students cannot enroll in an Eight-Semester Program. See the Eight-Semester Degree Policy (p. 73) for requirements of the eight-semester programs. Students in the Food Technology Concentration must also minor in agribusiness, general business or nutrition.

First Year	Units		
	Fall	Spring	Summer
UNIV 1001 University Perspectives (Sp, Su, Fa)	1		
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa)	4		
& BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)			

Second Year	Units		
	Fall	Spring	Summer
CHEM 1123 University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa)	4		
& CHEM 1121L University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)			
FDSC 2503 Food Safety and Sanitation (Sp, Fa)	3		
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)	3		
Select one of the following:	3		
Business minors only:			



AGEC 2142 Agribusiness Financial Records (Sp, Fa) & AGECE 2141L Agribusiness Financial Records Lab (Sp, Fa) or ACCT 2013 Accounting Principles (Sp, Su, Fa)			
Nutrition minors only: NUTR 2112 Principles of Foods (Sp, Fa) & NUTR 2111L Principles of Foods Laboratory (Sp, Fa)			
Select one of the following: FDSC 2603 Science in the Kitchen (Fa) General Elective	3		
Communication Intensive Elective (from approved list of courses)		3	
CHEM 2613 Organic Physiological Chemistry (ACTS Equivalency = CHEM 1224 Lecture) (Sp, Su, Fa) & CHEM 2611L Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su, Fa)			4
Select one of the following: AGEC 2403 Quantitative Tools for Agribusiness (Fa) WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa) STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa) AGST 4023 Principles of Experimentation (Fa)		3	
University Core in Fine Arts/Humanities or Social Science or History			3
Select one of the following: FDSC 2701 Food for Health (Sp) General Elective		1	
Year Total:	16	14	

	Third Year			Units
	Fall	Spring	Summer	
BIOL 2013 General Microbiology (ACTS Equivalency = BIOL 2004 Lecture) (Sp, Su, Fa) & BIOL 2011L General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa)	4			
University Core in Fine Arts/Humanities or Social Science or History		3		
FDSC 4304 Food Chemistry (Fa)			4	
Select one of the following:		3		
Business minors only: MKTG 3433 Introduction to Marketing (Sp, Su, Fa)				

or 3 hours of 3000-4000 level business elective			
Nutrition minors only: NUTR 4223 Life Cycle Nutrition (Fa)			
Communication Intensive Elective (from approved list of courses)			3
FDSC 3202 Introduction to Food Law (Sp)			2
FDSC 4113 Food Analysis (Sp) & FDSC 4111L Food Analysis Lab (Sp)			4
Select one of the following:			6
Business minors only: AGEC 2303 Introduction to Agribusiness (Sp, Su, Fa) & AGECE 3303 Food and Agricultural Marketing (Sp, Su, Fa) or MGMT 3563 Management Concepts and Organizational Behavior (Irregular)			
OR MGMT 3563 Management Concepts and Organizational Behavior (Irregular) & 3000-4000 level business elective			
Nutrition minors only: CHEM 3813 Elements of Biochemistry (Sp, Su, Fa) & NUTR 3203 Human Nutrition (Sp)			
FDSC 431V Internship in Food Science (Sp, Su, Fa)			3
Year Total:	14	15	3

	Fourth Year			Units
	Fall	Spring	Summer	
University core in Fine Arts/Humanities or Social Science or History	3			
FDSC 4413 Sensory Evaluation of Food (Fa)			3	
Select one of the following:			3	
Business minors only: AGEC 4313 Agricultural Business Management (Fa) or 3000-4000 level Business Elective				
Nutrition minors only: NUTR 4213 Advanced Nutrition (Fa)				
FDSC 3103 Principles of Food Processing (Fa)			3	
General Elective			3	
FDSC 4713 Product Innovation for the Food Scientist (Sp)				3
Select one of the following:				6
Business minors only: General Electives				
Nutrition minors only:				

NUTR 2203 Sports Nutrition (Sp, Fa) or NUTR 4243 Community Nutrition (Sp) & General Elective		
University Core in Fine Arts/Humanities or Social Science or History	3	
Year Total:	15	12
Total Units in Sequence:		120

## Requirements for a Major in Food Science (FDSC)

State minimum core and discipline specific general education requirements:  
(Course work that meets state minimum core requirements is in bold.)

### Communication (6-12 hours)

ENGL 1013	Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa) (unless exempt)	3
ENGL 1023	Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa) (unless exempt)	3
Select two courses from approved list of communication intensive courses (FDCU must choose 3000-4000 level courses)		6

### U.S. History and Government (3 hours)

Select one U.S. History Core courses 3

### Mathematics and Statistics (9-13 hours)

MATH 1203	College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3
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FDSC Concentration: 10

MATH 1213	Plane Trigonometry (ACTS Equivalency = MATH 1203) (Sp, Su, Fa)	
MATH 2554	Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	

Select one of the following:

STAT 2303	Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)	
STAT 2023	Biostatistics (Sp)	
AGST 4023	Principles of Experimentation (Fa)	

FDTN Concentration: 6-9

MATH 2043	Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)	
MATH 2053	Finite Mathematics (Sp, Su, Fa) (for students declaring Agricultural Business or General Business minors only)	

Select one of the following:

AGEC 2403	Quantitative Tools for Agribusiness (Fa)	
WCOB 1033	Data Analysis and Interpretation (Sp, Su, Fa)	
STAT 2303	Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)	
AGST 4023	Principles of Experimentation (Fa)	

FDCU Concentration: 6

MATH 2043	Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)	
STAT 2303	Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)	

### Physical and Biological Sciences (20-31 hours)

BIOL 1543 & BIOL 1541L	Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	4
BIOL 2013 & BIOL 2011L	General Microbiology (ACTS Equivalency = BIOL 2004 Lecture) (Sp, Su, Fa) and General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa)	4
CHEM 1103 & CHEM 1101L	University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) and University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)	4
CHEM 1123 & CHEM 1121L	University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) and University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)	4

Select one of the following concentrations:

FDSC Concentration: 11-15

CHEM 2613 & CHEM 2611L	Organic Physiological Chemistry (ACTS Equivalency = CHEM 1224 Lecture) (Sp, Su, Fa) and Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su, Fa)	
	or CHEM 36 Organic Chemistry I (Su, Fa) & CHEM 36 (and Organic Chemistry I Laboratory) (Su, Fa) & CHEM 36' and Organic Chemistry II (Sp, Su) & CHEM 36' and Organic Chemistry II Laboratory (Sp, Su)	
CHEM 3813	Elements of Biochemistry (Sp, Su, Fa)	
PHYS 2013 & PHYS 2011L	College Physics I (ACTS Equivalency = PHYS 2014 Lecture) (Su, Fa) and College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab) (Su, Fa)	

FDTN Concentration: 4-7

CHEM 2613 & CHEM 2611L	Organic Physiological Chemistry (ACTS Equivalency = CHEM 1224 Lecture) (Sp, Su, Fa) and Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su, Fa)	
CHEM 3813	Elements of Biochemistry (Sp, Su, Fa) (for students declaring General Foods and Nutrition minor only)	

FDCU Concentration: 4

CHEM 2613 & CHEM 2611L	Organic Physiological Chemistry (ACTS Equivalency = CHEM 1224 Lecture) (Sp, Su, Fa) and Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su, Fa)	
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### Fine Arts and Humanities (6 hours)

Select two Fine Arts, Humanities Core courses 6

### Social Sciences (9 hours)

Select three Social Science Core courses 9

Students declaring Agricultural Business minor must take AGEC 1103 Agricultural Microeconomics and students declaring General Business minor must take ECON 2143 Basic Economics - Theory & Practice, or both ECON 2013 Macroeconomics and ECON 2023 Microeconomics

### FDSC Degree Requirements (26 hours)

UNIV 1001	University Perspectives (Sp, Su, Fa)	1
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FDSC 1011	Exploring Topics in Food Science (Fa)	1
FDSC 1103	Introduction to Food Science (Sp)	3
FDSC 3103	Principles of Food Processing (Fa)	3
FDSC 3202	Introduction to Food Law (Sp)	2
FDSC 4304	Food Chemistry (Fa)	4
FDSC 4113	Food Analysis (Sp)	4
& FDSC 4111L	and Food Analysis Lab (Sp)	
FDSC 431V	Internship in Food Science (Sp, Su, Fa)	3
FDSC 4413	Sensory Evaluation of Food (Fa)	3
FDSC 4713	Product Innovation for the Food Scientist (Sp)	3
General Electives (9-19 hours)		9-19

#### Additional Requirements for Food and Culinary Sciences Concentration (24 hours)

NUTR 1213	Fundamentals of Nutrition (Sp, Fa)	3
Select one of the following:		3
FDSC 2503	Food Safety and Sanitation (Sp, Fa)	
FDST 1013	Food Safety <sup>1</sup>	
FDST 1023	Foundations <sup>1</sup>	3
FDST 1033	Sauces <sup>1</sup>	3
FDST 1043	Methods <sup>1</sup>	3
FDST 1203	Baking <sup>1</sup>	3
FDST 1403	Butchery & Charcuterie <sup>1</sup>	3
FDST 2003	World Cuisine <sup>1</sup>	3
<b>Total Hours</b>		<b>120</b>

<sup>1</sup> Indicates NorthWest Arkansas Community College course codes.

## Food Science B.S.A., Food and Culinary Sciences Concentration Nine-Semester Degree Program

Because the Food and Culinary Sciences Concentration requires an internship one summer, students cannot enroll in an Eight-Semester Program. See the Eight-Semester Degree Policy (p. 73) for requirements of the eight-semester programs.

First Year	Units		
	Fall	Spring	Summer
UNIV 1001 University Perspectives (Sp, Su, Fa)	1		
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa)	4		
& BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)			
University Core in Fine Arts/Humanities or Social Science or History	3		
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3		
FDSC 1011 Exploring Topics in Food Science (Fa)	1		
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3		

University core in Fine Arts/Humanities or Social Science or History	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)	3	
FDSC 1103 Introduction to Food Science (Sp)	3	
Select one of the following:	3	
FDST 1013 Food Safety <sup>1</sup>		
FDSC 2503 Food Safety and Sanitation (Sp, Fa)		
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa)	4	
& CHEM 1101L University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)		
Year Total:	15	16

Second Year	Units		
	Fall	Spring	Summer
University Core in Fine Arts/Humanities or Social Science or History	3		
FDST 1023 Foundations <sup>1</sup>	3		
CHEM 1123 University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa)	4		
& CHEM 1121L University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)			
NUTR 1213 Fundamentals of Nutrition (Sp, Fa)	3		
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)	3		
BIOL 2013 General Microbiology (ACTS Equivalency = BIOL 2004 Lecture) (Sp, Su, Fa)			4
& BIOL 2011L General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa)			
CHEM 2613 Organic Physiological Chemistry (ACTS Equivalency = CHEM 1224 Lecture) (Sp, Su, Fa)			4
& CHEM 2611L Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su, Fa)			
Communication Intensive Elective (from approved list of courses; must be 3000-4000 level course)			3
Select one of the following:			1
FDSC 2701 Food for Health (Sp)			
General Elective			
FDST 1033 Sauces <sup>1</sup>			3
Year Total:	16	15	

Third Year	Units		
	Fall	Spring	Summer
FDSC 4304 Food Chemistry (Fa)	4		
FDST 1403 Butchery & Charcuterie <sup>1</sup>	3		
STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)	3		
University Core in Fine Arts/Humanities or Social Science or History	3		
General Elective (must be 3000-4000 level course)	3		
Communication Intensive Elective (from approved list of courses; must be 3000-4000 level course)		3	
FDSC 3202 Introduction to Food Law (Sp)		2	
FDSC 4113 Food Analysis (Sp) & FDSC 4111L Food Analysis Lab (Sp)		4	
University Core in Fine Arts/Humanities or Social Science or History		3	
FDST 1043 Methods <sup>1</sup>		3	
FDSC 431V Internship in Food Science (Sp, Su, Fa)			3
Year Total:	16	15	3

Fourth Year	Units		
	Fall	Spring	Summer
FDSC 3103 Principles of Food Processing (Fa)	3		
FDSC 4413 Sensory Evaluation of Food (Fa)	3		
University Core in Fine Arts/Humanities or Social Science or History	3		
General Elective (must be 3000-4000 level course)	6		
FDSC 4713 Product Innovation for the Food Scientist (Sp)		3	
FDST 2003 World Cuisine <sup>1</sup>		3	
FDST 1203 Baking <sup>1</sup>		3	
Year Total:	15	9	

Total Units in Sequence: 120

<sup>1</sup> Indicates NorthWest Arkansas Community College course codes.

## Minor in Food Science (FDSC-M)

The Food Science Minor consists of 18 semester hours to include:

The following courses are required for a minor in Food Science:

FDSC 3103	Principles of Food Processing (Fa)	3
FDSC 4122 & FDSC 4121L	Food Microbiology (Fa) and Food Microbiology Lab (Fa)	3
FDSC 4304	Food Chemistry (Fa)	4
and a minimum of 8 hours selected from the following courses (at least 5 hours must be 3000-4000 level coursework):		8
FDSC 1103	Introduction to Food Science (Sp)	

FDSC 2603	Science in the Kitchen (Fa)	
FDSC 2701	Food for Health (Sp)	
FDSC 3202	Introduction to Food Law (Sp)	
FDSC 4113 & FDSC 4111L	Food Analysis (Sp) and Food Analysis Lab (Sp)	
FDSC 4413	Sensory Evaluation of Food (Fa)	
FDSC 4754	Engineering Principles of Food Processing (Even years, Sp)	
NUTR 4213	Advanced Nutrition (Fa)	
Total Hours		18

A student planning to minor in food science must consult a Department of Food Science adviser.

## Horticulture (HORT)

### Faculty

**Janet B. Carson**, Associate Professor  
**John R. Clark**, Distinguished Professor  
**Michael R. Evans**, Professor  
**M. Elena Garcia**, Professor  
**Douglas Edward Karcher**, Professor  
**Jacquelyn A. Lee**, Associate Professor  
**Wayne A. Mackay**, Professor  
**Garry Vernon McDonald**, Clinical Assistant Professor  
**Amanda L. McWhirt**, Assistant Professor  
**Mike Richardson**, Professor  
**James A. Robbins**, Professor  
**Curt R. Rom**, University Professor  
**Angela M. Shaw**, Adjunct Assistant Professor  
**Ainong Shi**, Assistant Professor  
**Margaret L. Worthington**, Assistant Professor

Wayne A. Mackay  
 Head of the Department  
 316 Plant Sciences Building  
 479-575-2603  
<http://hort.uark.edu>

The Department of Horticulture offers a broad, science-based degree with comprehensive and technical training: Horticulture, Landscape and Turf Sciences (HLTS).

Horticulture, landscape, and turf management involves selection, production, management, marketing, use, and research of ornamental crops (shrubs, trees, flowers, and turf), edible crops (herbs, vegetables, and fruits) and turf grasses for the economic, nutritional, aesthetic and recreational well-being of society. The major provides education and training in basic and applied sciences, arts and humanities, communication, and business and economics to provide an understanding of the underlying principles in plant growth and development and use of new technologies, and the operation of a horticultural enterprise. In consultation with an academic adviser and mentor, students may individually focus their academic programs through required and elective courses to focus training in specialized areas such as production, greenhouse and floriculture sciences, turfgrass management, golf course management, nursery production and management, edible crop production, pest management, sales and support services, education and training, and horticultural consulting. An internship in the industry is required to gain practical, hands-on experience.

Job opportunities for horticulturists include horticulture crop production and management, horticulture merchandising and business, consulting, inspection, research, teaching, Extension, communications, allied industries serving horticultural producers, journalism, and developing private business. Students who specialize in landscape and aspects of ornamental horticulture will be prepared for careers in the landscape service industry, landscape nurseries, landscape design firms, private and public gardens, and public agencies such as parks and recreation. Job opportunities for students studying turfgrass management include golf course superintendent, sports field manager, turfgrass science companies, seed or sod production, commercial landscape turfgrass management, research, sales, teaching, or private consulting. Advanced study may be required for some careers.

## Requirements for a Major in Horticulture, Landscape and Turf Sciences (HLTS)

The HLTS major will consist of 120 hours to include the following:

State minimum core and discipline specific general education requirements:

(Course work that meets state minimum core requirements is in **bold**.)

<b>Communications</b>	0-6
<b>Two English Core Courses (unless exempt)</b>	
ENGL 1013	Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa) (unless exempt*)
ENGL 1023	Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa) (unless exempt*)
<b>U.S. History and Government (3 hours)</b>	3
HIST 2003	History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)
HIST 2013	History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)
PLSC 2003	American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)
<b>Mathematics (3 hours)</b>	3
MATH 1203	College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (or higher level math)
<b>Sciences (16-20 hours)</b>	16-20
BIOL 1543 & BIOL 1541L	Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)
BIOL 1613 & BIOL 1611L	Plant Biology (ACTS Equivalency = BIOL 1034 Lecture) (Sp, Su) and Plant Biology Laboratory (ACTS Equivalency = BIOL 1034 Lab) (Sp, Su)
CHEM 1073 & CHEM 1071L	Fundamentals of Chemistry (ACTS Equivalency = CHEM 1214 Lecture) (Su, Fa) and Fundamentals of Chemistry Laboratory (ACTS Equivalency = CHEM 1214 Lab) (Fa) (OR)

or CHEM 11: University Chemistry I (ACTS Equivalency = CHEM & CHEM 11(1414 Lecture) (Su, Fa) & CHEM 11: and University Chemistry I Laboratory (ACTS & CHEM 11: Equivalency = CHEM 1414 Lab) (Sp, Su, Fa) and University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) and University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)

CHEM 2613 Organic Physiological Chemistry (ACTS & CHEM 2611: Equivalency = CHEM 1224 Lecture) (Sp, Su, Fa) and Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su, Fa) (AND)

### Fine Arts and Humanities (6 hours) 6

Fine Arts Core Course

Humanities Core Course

### Social Sciences (9 hours total; 3 hours must be selected from the following) 9

AGEC 1103 Principles of Agricultural Microeconomics (Sp, Su, Fa)

or AGEC 21: Principles of Agricultural Macroeconomics (Sp, Fa)

or ECON 20: Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)

or ECON 20: Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)

or ECON 21: Basic Economics: Theory and Practice (Sp, Su, Fa)

### HLTS Core Requirements (26-28 hours) 27-28

UNIV 1001 University Perspectives (Sp, Su, Fa)

COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)

Communication Intensive Elective (3 hours from approved list of courses)

CSES 2203 Soil Science (Sp, Fa)

& CSES 2201L and Soil Science Laboratory (Sp, Fa)

HORT 2003 Principles of Horticulture (Sp) (with lab component)

HORT 3901 Horticultural Career Development (Sp)

HORT 4403 Plant Propagation (Sp) (with lab component)

HORT 462V Horticulture, Landscape, Turf Sciences Internship (Sp, Su, Fa)

Select two of the following:

CSES 4143 Principles of Weed Control (Sp)

ENTO 3013 Introduction to Entomology (Fa)

PLPA 3004 Principles of Plant Pathology (Fa) (with lab component)

### Horticulture Electives (18 hours) 18

Select 18 hours from the following:

HORT 2303 Introduction to Turfgrass Management (Fa)

HORT 3103 Woody Landscape Plants (Fa) (with lab component)

HORT 3113 Herbaceous and Indoor Plant Materials (Odd years, Sp) (with lab component)

HORT 3303 Vegetable Crops (Irregular)

HORT 3403 Turfgrass Management (Even years, Sp) (with lab component)

HORT 3503 Sustainable and Organic Horticulture (Even years, Fa)

HORT 4033	Professional Landscape Installation and Construction (Even years, Fa)	
HORT 4043	Professional Landscape Management (Odd years, Fa)	
HORT 4103	Fruit Production Science and Technology (Odd years, Sp) (with lab component)	
HORT 4603	Practical Landscape Planning (Even years, Sp)	
HORT 4703	Greenhouse Management and Controlled Environment Horticulture (Fa)	
HORT 4701L	Greenhouse Management and Controlled Environment Horticulture Laboratory (Odd years, Fa)	
HORT 4803	Greenhouse Crops Production (Even years, Sp)	
HORT 4801L	Greenhouse Crops Production Laboratory (Even years, Sp)	
HORT 4903	Golf and Sports Turf Management (Odd years, Fa) (with lab component)	
HORT 4913	Rootzone Management for Golf and Sports Turf (Odd years, Sp)	
HORT 4921	Golf Course Operations (Even years, Fa)	
HORT 4932	Turf Best Management Practices (Odd years, Sp)	
HORT 400V	Special Problems (Sp, Su, Fa)	
HORT 401V	Special Topics in Horticulture, Turf or Landscape (Irregular)	
<b>Discipline-Related Electives</b>		<b>12</b>
Select 12 hours from the following:		
AGME 3102 & AGME 3101L	Small Power Units/Turf Equipment (Sp) and Small Power Units/Turf Equipment Laboratory (Sp)	
AGME 3153	Surveying in Agriculture and Forestry (Fa)	
AGME 4973	Irrigation (Sp) (with lab component)	
ANSC/POSC 3123	Principles of Genetics (Fa)	
HORT 1103	Plants in the Home Environment (Fa)	
HORT 3123	International Horticulture (Sp)	
HORT 3203	Sustainable Landscape Practices (Fa)	
HORT 4413	Horticulture Physiology (Sp)	
HORT 4503	Sustainable Nursery Production (Even years, Sp) (with lab component)	
HORT 400V	Special Problems (Sp, Su, Fa)	
HORT 401V	Special Topics in Horticulture, Turf or Landscape (Irregular)	
LARC 3914	Planting Design I (Fa)	
LARC 2113	Design Communications I (Fa)	
PHYS 1023 & PHYS 1021L	Physics and Human Affairs (Sp, Su, Fa) and Physics and Human Affairs Laboratory (Sp, Su, Fa) (or higher level)	
WCOB	(up to 9 hours)	
or any AGECE, BIOL, CHEM, CSES, ENSC, ENTO, HORT, PLPA class not taken in any other elective groups.		
<b>General Electives (15-26 hours of general electives to total 120 hours)</b>		<b>15-26</b>
<b>Total Hours</b>		<b>120</b>

## Horticulture, Landscape and Turf Sciences B.S.A.

### Nine-Semester Degree Plan

Students wishing to follow the degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program.

First Year	Units		
	Fall	Spring	Summer
UNIV 1001 University Perspectives (Sp, Su, Fa)	1		
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3		
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3		
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3		
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa)	4		
& BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)			3
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)			3
HORT 2003 Principles of Horticulture (Sp)			3
Fine Arts/Humanities University Core			3
History Core Elective			3
Social Science Core			3
<b>Year Total:</b>	<b>14</b>	<b>15</b>	

Second Year	Units		
	Fall	Spring	Summer
CHEM 1073 Fundamentals of Chemistry (ACTS Equivalency = CHEM 1214 Lecture) (Su, Fa)	4		
& CHEM 1071L Fundamentals of Chemistry Laboratory (ACTS Equivalency = CHEM 1214 Lab) (Fa)			
Communication Intensive Class	3		
Horticulture Electives	6		
BIOL 1613 Plant Biology (ACTS Equivalency = BIOL 1034 Lecture) (Sp, Su)			4
& BIOL 1611L Plant Biology Laboratory (ACTS Equivalency = BIOL 1034 Lab) (Sp, Su)			
Fine Arts/Humanities University Core			3
HORT 3901 Horticultural Career Development (Sp)			1
Discipline-related Elective			3
General Electives			3
<b>Year Total:</b>	<b>13</b>	<b>14</b>	

Third Year	Units		
	Fall	Spring	Summer
CSES 2203 Soil Science (Sp, Fa) & CSES 2201L Soil Science Laboratory (Sp, Fa)	4		
Pest Management Elective	3-4		
Horticulture Elective	3		
Social Sciences University Core Elective	3		
Discipline-Related Elective	3		
CHEM 2613 Organic Physiological Chemistry (ACTS Equivalency = CHEM 1224 Lecture) (Sp, Su, Fa) & CHEM 2611L Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su, Fa)		4	
Discipline-Related Elective		3-4	
HORT 4403 Plant Propagation (Sp) Horticulture Elective		3	
HORT 462V Horticulture, Landscape, Turf Sciences Internship (Sp, Su, Fa)			3
Year Total:	16-17	13-14	3

Fourth Year	Units		
	Fall	Spring	Summer
Discipline-Related Elective	3		
Horticulture Elective	3		
Pest Management Elective	3-4		
General Electives	6-7		
Social Science University Core Elective		3	
Horticulture Elective		3	
General Electives		8-9	
Year Total:	15-17	14-15	

Total Units in Sequence: 117-122

### Minor in Horticulture (HORT-M)

The minor will consist of 18 hours to include:

HORT 2003	Principles of Horticulture (Sp)	3
HORT 4403	Plant Propagation (Sp)	3
Select 9-11 hours from the following:		9-11
HORT 2303	Introduction to Turfgrass Management (Fa)	
HORT 3303	Vegetable Crops (Irregular)	
HORT 400V	Special Problems (Sp, Su, Fa)	
HORT 4103	Fruit Production Science and Technology (Odd years, Sp)	
HORT 4503	Sustainable Nursery Production (Even years, Sp)	
HORT 4703	Greenhouse Management and Controlled & HORT 4701L Environment Horticulture (Fa) and Greenhouse Management and Controlled Environment Horticulture Laboratory (Odd years, Fa)	

HORT 4803	Greenhouse Crops Production (Even years, Sp) & HORT 4801L and Greenhouse Crops Production Laboratory (Even years, Sp)	
Select one of the following:		3
HORT 3103	Woody Landscape Plants (Fa)	
HORT 3113	Herbaceous and Indoor Plant Materials (Odd years, Sp)	
Total Hours		18

### Minor in Landscape Horticulture (LHRT-M)

The minor will consist of 18 hours to include:

HORT 2003	Principles of Horticulture (Sp)	3
HORT 4043	Professional Landscape Management (Odd years, Fa)	3
Select 3 hours from the following:		3
HORT 4603	Practical Landscape Planning (Even years, Sp)	
LARC Studio Course		
Select one of the following:		3
HORT 3103	Woody Landscape Plants (Fa)	
HORT 3113	Herbaceous and Indoor Plant Materials (Odd years, Sp)	
Select 6-8 hours from the following:		6-8
HORT 2303	Introduction to Turfgrass Management (Fa)	
HORT 3103	Woody Landscape Plants (Fa)	
HORT 3113	Herbaceous and Indoor Plant Materials (Odd years, Sp)	
HORT 3403	Turfgrass Management (Even years, Sp)	
HORT 400V	Special Problems (Sp, Su, Fa)	
HORT 4033	Professional Landscape Installation and Construction (Even years, Fa)	
HORT 4403	Plant Propagation (Sp)	
HORT 4503	Sustainable Nursery Production (Even years, Sp)	
HORT 4703	Greenhouse Management and Controlled & HORT 4701L Environment Horticulture (Fa) and Greenhouse Management and Controlled Environment Horticulture Laboratory (Odd years, Fa)	
HORT 4803	Greenhouse Crops Production (Even years, Sp) & HORT 4801L and Greenhouse Crops Production Laboratory (Even years, Sp)	
LARC 3734	Landscape Architecture Construction III (Sp)	
Total Hours		18

### Minor in Turf Management (TURF-M)

18 to 20 hours to include the following:

HORT 2303	Introduction to Turfgrass Management (Fa)	3
HORT 3403	Turfgrass Management (Even years, Sp) (with lab component)	3
Select one of the following:		3
HORT 4903	Golf and Sports Turf Management (Odd years, Fa) (with lab component)	
HORT 4913	Rootzone Management for Golf and Sports Turf (Odd years, Sp) (with lab component)	
Select 3-4 hours from the following:		3-4

CSES 2003	Introduction to Weed Science (Irregular)	
ENTO 3013	Introduction to Entomology (Fa) (with lab component)	
PLPA 3004	Principles of Plant Pathology (Fa) (with lab component)	
Select two of the following:		6-8
AGME 4973	Irrigation (Sp)	
AGME 3102 & AGME 3101L	Small Power Units/Turf Equipment (Sp) and Small Power Units/Turf Equipment Laboratory (Sp)	
CSES 2003	Introduction to Weed Science (Irregular) (with lab component)	
CSES 2203 & CSES 2201L	Soil Science (Sp, Fa) and Soil Science Laboratory (Sp, Fa)	
ENTO 3013	Introduction to Entomology (Fa) (with lab component)	
PLPA 3004	Principles of Plant Pathology (Fa) (with lab component)	
HORT 4903	Golf and Sports Turf Management (Odd years, Fa) (with lab component)	
HORT 4913	Rootzone Management for Golf and Sports Turf (Odd years, Sp) (with lab component)	
HORT 3103	Woody Landscape Plants (Fa) (with lab component)	
HORT 4033	Professional Landscape Installation and Construction (Even years, Fa)	
HORT 4043	Professional Landscape Management (Odd years, Fa)	
Total Hours		18-20

## Pest Management (PMGT)

Nilda Burgos  
Program Coordinator  
ALTH 222  
479-575-2445

All faculty in the Department of Plant Pathology, Entomology, and the discipline of Weed Science in the Department of Crop, Soil, and Environmental Sciences are faculty in the discipline of Pest Management.

### Minor in Pest Management (PMGT-M)

Students interested in this area of study must declare their intention to the program coordinator. A minor in Pest Management consists of 19 hours to include two courses from each pest discipline: Entomology (ENTO), Plant Pathology (PLPA), and Weed Science (CSES):

ENTO 3013	Introduction to Entomology (Fa)	3
PLPA 3004	Principles of Plant Pathology (Fa)	4
Select four of the following:		12
CSES 2003	Introduction to Weed Science (Irregular)	
CSES 4133	Ecology and Morphology of Weedy and Invasive Plants (Fa)	
CSES 4143	Principles of Weed Control (Sp)	
ENTO 4123	Insect Pest Management (Odd years, Sp)	
ENTO 4133	Advanced Applied Entomology (Even years, Sp)	
PLPA 4223	Plant Disease Control (Fa)	

PLPA 4304	Applied Plant Disease Management (Irregular)	
Total Hours		19

## Plant Pathology (PLPA)

### Faculty

**Burt H. Bluhm**, Associate Professor  
**Richard D. Cartwright**, Extension Professor  
**Jim Correll**, Professor  
**Martin J. Egan**, Assistant Professor  
**Travis Faske**, Associate Professor  
**Ken L. Korth**, Professor  
**Robert Thomas Robbins**, University Professor  
**Clemencia Rojas**, Assistant Professor  
**Craig S. Rothrock**, Professor  
**John C. Rupe**, Professor  
**J. Ples Spradley**, Extension Associate Professor  
**Terry Spurlock**, Extension Assistant Professor  
**Ioannis E. Tzanetakis**, Associate Professor  
**Yeshi Andenow Wamishe**, Assistant Professor

Craig Rothrock  
Head of the Department  
217 Plant Sciences Building  
479-575-2445  
<http://plantpathology.uark.edu>

Plant pathology is the study of interrelationships of plants with the abiotic and biotic agents that affect plant health and productivity. The goal of the discipline is to minimize the impact of plant diseases on agricultural production and human health. Scientific training within the department focuses on the nature, cause, and management of plant diseases.

Plant pathology is a graduate degree program. Undergraduate students interested in plant pathology should pursue a minor in pest management or plant pathology. See Pest Management (p. 142) for degree requirements.

### Minor in Plant Pathology (PLPA-M)

A student planning to minor in plant pathology should notify the Department of Plant Pathology and consult an adviser. A minor in Plant Pathology consists of 19 hours to include the following:

PLPA 3004	Principles of Plant Pathology (Fa)	4
PLPA 400V	Research (Sp, Su, Fa)	3
Select one of the following:		3
PLPA 4223	Plant Disease Control (Fa)	
PLPA 4304	Applied Plant Disease Management (Irregular)	
Select three of the following:		9
BIOL 4233	Genomics and Bioinformatics (Sp)	
BIOL 4303	Plant Physiology (Fa)	
BIOL 4353	Ecological Genetics/Genomics (Odd years, Fa)	
BIOL 4424	Mycology (Irregular)	
BIOL 4753	General Virology (Sp)	
PLPA 4333	Biotechnology in Agriculture (Fa)	
Total Hours		19



# Poultry Science (POSC)

## Faculty

**Nick Anthony**, Professor  
**Walter G. Bottje**, Professor  
**Keith Bramwell**, Extension Associate Professor  
**Karen Christensen**, Associate Professor  
**Fred D. Clark**, Extension Professor  
**Craig N. Coon**, Professor  
**Annie Donoghue**, Research Professor  
**Dan Donoghue**, Professor  
**Sami Dridi**, Associate Professor  
**Gisela F. Erf**, Professor, Avian Immunology Professorship  
**Casey Owens Hanning**, Associate Professor  
**Billy M. Hargis**, Professor, Sustainable Poultry Health Chair  
**Michael T. Kidd**, Professor  
**Byung-Whi Kong**, Associate Professor  
**Wayne J. Kuenzel**, Professor  
**Young Min Kwon**, Associate Professor  
**Yanbin Li**, Distinguished Professor, Tyson Endowed Chair in Biosensing Engineering  
**John A. Marcy**, Extension Professor  
**Dennis Joe Mason**, Instructor  
**Narayan C. Rath**, Adjunct Research Professor  
**Douglas Duane Rhoads**, University Professor  
**Samuel J. Rochell**, Assistant Professor  
**Colin Scanes**, Adjunct Professor  
**Xiaolun Sun**, Assistant Professor  
**Guillermo Tellez-Isaías**, Visiting Professor  
**Susan E. Watkins**, Extension Professor  
**Robert F. Wideman Jr.**, Professor  
**Tom Yazwinski**, Adjunct University Professor

Michael T. Kidd  
 Head of the Department  
 0114 Poultry Science Center  
 479-575-3699  
<http://www.poultryscience.uark.edu/>

The Department of Poultry Science offers a major in poultry science leading to a Bachelor of Science in Agriculture. The department also offers coursework for a minor and a certificate of excellence program.

A major in poultry science is designed to provide the scientific and technical education to prepare students for positions of leadership and responsibility in the expanding fields of production, processing, marketing, and distribution of meat, eggs, and related poultry products. The curriculum also prepares students for career opportunities in specialized areas of nutrition, breeding, genetics, physiology, management, food science, immunology, and disease.

Elective hours allow students to select a minor and thus personalize their degree.

Elective hours can also be used to emphasize areas of business, production, processing or science. Pre-veterinary medicine, pre-medical, or pre-pharmacy requirements may be fulfilled while meeting degree requirements.

Curricula are designed to permit the student to obtain the necessary foundation to pursue graduate study for the master's and doctoral

degrees. Advanced degrees are offered but not limited to the areas of nutrition, genetics, physiology, product technology, and poultry health.

## Requirements for a Major in Poultry Science (POSC)

State minimum core and discipline specific general education requirements:

(Course work that meets state minimum core requirements is in bold.)

UNIV 1001	University Perspectives (Sp, Su, Fa)	1
<b>Communications (6-12 hours)</b>		6-12
<b>Two English Core Courses (unless exempt)</b>		
COMM 1313	Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	
<b>Communication Intensive Elective (see Adviser)</b>		
<b>U.S. History and Government (3 hours)</b>		
<b>One U.S. History and Government Course</b>		3
<b>Mathematics and Statistics (6-7 hours)</b>		
<b>One MATH Core Course</b>		3-4
Select one of the following:		
AGEC 2403	Quantitative Tools for Agribusiness (Fa)	
STAT 2303	Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)	
AGST 4023	Principles of Experimentation (Fa)	
<b>Sciences (16-24 hours)</b>		
BIOL 1543 & BIOL 1541L	Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	4
BIOL 2013 & BIOL 2011L	General Microbiology (ACTS Equivalency = BIOL 2004 Lecture) (Sp, Su, Fa) and General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa)	4
Select one of the following:		
CHEM 1073 & CHEM 1071L	Fundamentals of Chemistry (ACTS Equivalency = CHEM 1214 Lecture) (Su, Fa) and Fundamentals of Chemistry Laboratory (ACTS Equivalency = CHEM 1214 Lab) (Fa)	
CHEM 1103 & CHEM 1101L	University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) and University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)	
CHEM 1123 & CHEM 1121L	University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) and University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)	
Select one of the following:		
CHEM 2613 & CHEM 2611L	Organic Physiological Chemistry (ACTS Equivalency = CHEM 1224 Lecture) (Sp, Su, Fa) and Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su, Fa)	
CHEM 3603 & CHEM 3601L	Organic Chemistry I (Su, Fa) and Organic Chemistry I Laboratory (Su, Fa)	
CHEM 3613 & CHEM 3611L	Organic Chemistry II (Sp, Su) and Organic Chemistry II Laboratory (Sp, Su)	
<b>Fine Arts and Humanities (6 hours)</b>		

<b>One Fine Arts and one Humanities Core Courses</b>	6
<b>Social Sciences (9 hours)</b>	
AGEC 1103 Principles of Agricultural Microeconomics (Sp, Su, Fa)	3
or ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)	
<b>Choose two Social Sciences Core Courses</b>	6
<b>Poultry Science Core</b>	
POSC 1002 Introduction to Careers in Poultry Science (Fa)	2
POSC 1012 Avian Biology (Sp)	2
POSC 2343 Poultry Production (Fa)	3
POSC 2353 Poultry Breeder Management (Sp)	3
POSC 3223 Poultry Diseases (Fa)	3
POSC 3554 Avian Anatomy (Sp)	4
Select one of the following:	3
POSC 3123 Principles of Genetics (Fa)	
POSC 4333 Poultry Breeding (Odd years, Fa)	
BIOL 2323 General Genetics (Sp, Fa)	
POSC 4314 Egg and Meat Technology (Fa)	4
POSC 4343 Poultry Nutrition (Sp)	3
<b>Poultry Science Controlled Electives</b>	
Select 6 hours from the following:	6
AGEC 2303 Introduction to Agribusiness (Sp, Su, Fa)	
PHYS 2013 College Physics I (ACTS Equivalency = PHYS & PHYS 2011L 2014 Lecture) (Su, Fa) and College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab) (Su, Fa)	
PHYS 2033 College Physics II (ACTS Equivalency = PHYS & PHYS 2031L 2024 Lecture) (Sp, Su) and College Physics II Laboratory (ACTS Equivalency = PHYS 2024 Lab) (Su)	
POSC 3032 Animal Physiology I (Fa)	
POSC 3042 Animal Physiology II (Sp)	
POSC 4213 Integrated Poultry Management Systems (Fa)	
Select 3 hours from the following:	3
POSC 4801 Seminar: Research Topics (Odd years, Sp)	
POSC 4811 Seminar: Professionalism (Odd years, Fa)	
POSC 4821 Seminar: Problem Solving (Even years, Sp)	
POSC 4831 Seminar: Processing Regulations (Even years, Fa)	
Select 6 hours from the following:	6
POSC 3013 Exotic Companion Birds (Odd years, Fa)	
POSC 3381 Poultry Judging and Selection (Sp, Fa)	
POSC 400V Special Problems (Sp, Su, Fa)	
POSC 401V Internship in Poultry Science (Sp, Su, Fa)	
POSC 4033 Statistical Process Control in the Food Industry (Irregular)	
POSC 4233 Value Added Muscle Foods (Odd years, Sp)	
POSC 4923 Brain and Behavior (Fa)	
POSC Elective	
Discipline-Related Electives (12 hrs)	12
General Electives (4-19 hours)	4-19
<b>Total Hours</b>	<b>120</b>

## Poultry Science B.S.A. Eight-Semester Degree Program

Students wishing to follow the degree plan should go to the Eight-Semester Degree Policy (p. 73) for university requirements of the program.

First Year	Units	
	Fall	Spring
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	4	
UNIV 1001 University Perspectives (Sp, Su, Fa)	1	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3	
POSC 1002 Introduction to Careers in Poultry Science (Fa)	2	
FNAR/Humanities University Core Elective	3	
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (or higher)		3
Social Science Core Elective		3
POSC 1012 Avian Biology (Sp)		2
FNAR/Humanities University Core Elective		3
<b>Year Total:</b>	<b>16</b>	<b>14</b>

Second Year	Units	
	Fall	Spring
POSC 2343 Poultry Production (Fa)	3	
Discipline-Related Elective	3	
History University Core Elective	3	
AGEC 1103 Principles of Agricultural Microeconomics (Sp, Su, Fa) or ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)	3	
Select one of the following:	4	
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) & CHEM 1101L University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)		
CHEM 1073 Fundamentals of Chemistry (ACTS Equivalency = CHEM 1214 Lecture) (Su, Fa) & CHEM 1071L Fundamentals of Chemistry Laboratory (ACTS Equivalency = CHEM 1214 Lab) (Fa)		
POSC 2353 Poultry Breeder Management (Sp)		3
Select one of the following:		4

CHEM 1123 University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa)										
& CHEM 1121L University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa) <sup>1</sup>										
CHEM 2613 Organic Physiological Chemistry (ACTS Equivalency = CHEM 1224 Lecture) (Sp, Su, Fa)										
& CHEM 2611L Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su, Fa)										
POSC 3554 Avian Anatomy (Sp)			4							
Social Science Core Elective			3							
Communication Intensive Elective			3							
Year Total:			16		17					
<b>Third Year</b>										
			<b>Fall</b>		<b>Spring</b>					<b>Units</b>
BIOL 2013 General Microbiology (ACTS Equivalency = BIOL 2004 Lecture) (Sp, Su, Fa)			4							
& BIOL 2011L General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa)										
Select one of the following:			3-4							
CHEM 3603 Organic Chemistry I (Su, Fa)										
& CHEM 3601L Organic Chemistry I Laboratory (Su, Fa)										
General Elective										
Select one of the following:			3							
POSC 4333 Poultry Breeding (Odd years, Fa)										
POSC/ANSC 3123 Principles of Genetics (Fa)										
General Elective (3 hours)										
Select one of the following:			2-4							
PHYS 2013 College Physics I (ACTS Equivalency = PHYS 2014 Lecture) (Su, Fa)										
& PHYS 2011L College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab) (Su, Fa)										
POSC 3032 Animal Physiology I (Fa)										
AGEC 2303 Introduction to Agribusiness (Sp, Su, Fa)										
POSC 4811 Seminar: Professionalism (Odd years, Fa)			1							
or POSC 4831 Seminar: Processing Regulations (Even years, Fa)										
Select one of the following:			3-4							
CHEM 3613 Organic Chemistry II (Sp, Su)										
& CHEM 3611L Organic Chemistry II Laboratory (Sp, Su) <sup>3</sup>										
General Elective										
Select one of the following:			2-4							
PHYS 2033 College Physics II (ACTS Equivalency = PHYS 2024 Lecture) (Sp, Su)										
& PHYS 2031L College Physics II Laboratory (ACTS Equivalency = PHYS 2024 Lab) (Su)										
POSC 3042 Animal Physiology II (Sp)										
AGEC 2303 Introduction to Agribusiness (Sp, Su, Fa)										
POSC 4213 Integrated Poultry Management Systems (Fa)										
General Elective										
Discipline-Related Elective										3
Year Total:									17	11
<b>Fourth Year</b>										<b>Units</b>
								<b>Fall</b>	<b>Spring</b>	
POSC 3223 Poultry Diseases (Fa)								3		
POSC 4314 Egg and Meat Technology (Fa)								4		
Upper-Division POSC Elective								3		
Select one of the following:								3		
General Elective										
BIOL 2323 General Genetics (Sp, Fa)										
Year Total:								13		16
<b>Year Total:</b>										<b>16</b>
<b>Fourth Year</b>										<b>Units</b>
								<b>Fall</b>	<b>Spring</b>	
POSC 3223 Poultry Diseases (Fa)								3		
POSC 4314 Egg and Meat Technology (Fa)								4		
Upper-Division POSC Elective								3		
Select one of the following:								3		
AGEC 2403 Quantitative Tools for Agribusiness (Fa)										
General Elective										
Discipline-Related Elective										3
POSC 4811 Seminar: Professionalism (Odd years, Fa)										1
or POSC 4831 Seminar: Processing Regulations (Even years, Fa)										
POSC 4343 Poultry Nutrition (Sp)										3
Select one of the following:										3
STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)										
AGST 4023 Principles of Experimentation (Fa)										
General Elective										
Select one of the following:										2-4
PHYS 2033 College Physics II (ACTS Equivalency = PHYS 2024 Lecture) (Sp, Su)										
& PHYS 2031L College Physics II Laboratory (ACTS Equivalency = PHYS 2024 Lab) (Su)										
POSC 3042 Animal Physiology II (Sp)										
AGEC 2303 Introduction to Agribusiness (Sp, Su, Fa)										
POSC 4213 Integrated Poultry Management Systems (Fa)										
General Elective										
Discipline-Related Elective										3
Year Total:								17		11
<b>Total Units in Sequence:</b>										<b>120</b>
<sup>1</sup> If CHEM 1103/CHEM 1101L taken previous fall.										
<sup>2</sup> If CHEM 1103/CHEM 1101L and CHEM 1123/CHEM 1121L taken previously.										
<sup>3</sup> If CHEM 3603/CHEM 3601L taken previously.										

## Minor in Poultry Science (POSC-M)

A student planning to minor in poultry science should consult a departmental adviser. The minor consists of 15 hours to include the following:

POSC 1002	Introduction to Careers in Poultry Science (Fa)	2
POSC 1012	Avian Biology (Sp)	2
POSC 2343	Poultry Production (Fa)	3
POSC 2353	Poultry Breeder Management (Sp)	3
Select 5 hours from any POSC course listing.		5
<b>Total Hours</b>		<b>15</b>

### Requirements for Undergraduate Certificate of Excellence in Poultry Science

Students entering the Certificate of Excellence Program must 1) meet the admission requirements for the University of Arkansas and 2) have completed 90 hours of coursework with a 2.0 or higher from a regionally accredited institution of higher education.

Students who have completed a Bachelor of Science degree may also consider this program. Typical careers include production/processing/allied positions in the poultry industry, graduate studies are also an option.

#### Curriculum Outline:

POSC 3032	Animal Physiology I (Fa)	2
POSC 3042	Animal Physiology II (Sp)	2
POSC 3223	Poultry Diseases (Fa)	3
POSC 3554	Avian Anatomy (Sp)	4
POSC 4213	Integrated Poultry Management Systems (Fa)	3
POSC 4314	Egg and Meat Technology (Fa)	4
POSC 4343	Poultry Nutrition (Sp)	3
POSC 4801	Seminar: Research Topics (Odd years, Sp)	1
or POSC 4821	Seminar: Problem Solving (Even years, Sp)	
POSC 4811	Seminar: Professionalism (Odd years, Fa)	1
or POSC 4831	Seminar: Processing Regulations (Even years, Fa)	
POSC 401V	Internship in Poultry Science (Sp, Su, Fa)	3
POSC 410V	Special Topics in Poultry Science (Irregular)	3

## School of Human Environmental Sciences (HESC)

### Faculty

**Laurie Marie McAlister Apple**, Associate Professor

**Julia Atilas**, Instructor

**Mechelle Bailey**, Clinical Instructor

**Mahendran Balasubramanian**, Assistant Professor

**Jennifer N. Becnel**, Assistant Professor

**Nancy Buckley**, Instructor

**Lance M. Cheramie**, Instructor

**Eunjoo Cho**, Assistant Professor

**Mardel Asbury Crandall**, Instructor

**Cynthia Elkins**, Instructor

**Serena M. Fuller**, Associate Professor

**Mary Elizabeth Garrison**, Professor

**Cora Hamm**, Instructor

**Lorna Harding**, Instructor

**Laura K. Herold**, Clinical Assistant Professor

**Laura Hill**, Instructor

**Stephanie K. Hubert**, Instructor

**Timothy Scott Killian**, Associate Professor

**Jae Kyeom Kim**, Assistant Professor

**Shelley McNally**, Clinical Assistant Professor

**Zola Moon**, Clinical Associate Professor

**Jacquelyn Dee Mosley**, Associate Professor

**Shari Coleman Moxley**, Instructor

**Catherine O'Brien**, Instructor

**Rana Post**, Instructor

**Lona Robertson**, Professor

**Lobat Siahmakoun**, Instructor

**Kathy Smith**, Clinical Associate Professor

**Cheryl Leigh Southward**, Associate Professor

**La Vona Traywick**, Associate Professor

**Sabrina P. Trudo**, Associate Professor, Twenty First Century Endowed Chair in Human Environmental Sciences

**Yao-Chin Wang**, Assistant Professor

**Lisa T. Washburn**, Assistant Professor

**Kelly Ann Way**, Associate Professor

**Amanda Williams**, Assistant Professor

M.E. Betsy Garrison

Director

118 Home Economics Building

479-575-4305

<http://hesc.uark.edu/>

The School of Human Environmental Sciences at the University of Arkansas prepares students for a wide variety of professional careers in education, industry, business, government, and community services. The school is concerned with improving the quality of life for individuals and families as they exist and function in society. Human environmental sciences draw knowledge from research, from the physical, biological, and social sciences, and from arts and humanities. It relates this knowledge to an understanding of individuals' and families' needs and goals for food, clothing, shelter, management of resources, and human development and relationships. The School of Human Environmental Sciences has made a substantial contribution to the development of individuals and families through undergraduate and graduate preparation of human environmental scientists and through research in human nutrition, foods, human development, family sciences, apparel and textiles.

Four majors are offered in the School of Human Environmental Sciences:

- Apparel Merchandising and Product Development (p. 146)
- General Human Environmental Sciences (p. 151)
- Human Development and Family Sciences (p. 152)
- Human Nutrition and Hospitality Innovation (p. 154)

The four majors of the B.S.H.E.S. degree have been accredited by the Council for Professional Development of the American Association of Family and Consumer Sciences.

## Apparel Merchandising and Product Development (AMPD)

Kathy Smith

Assistant Director

204 Home Economics Building

479-575-2577

The Apparel Merchandising and Product Development (AMPD) program opens the door to careers in the fashion industry. Buyer, product development specialist, fashion coordinator, sales consultant, visual display artist, and quality assurance technician are only a few of the possibilities. Classes in business, retailing, apparel production, science, social science, and the liberal arts give students a basic knowledge about the textile and apparel industries. By selecting from a variety of minors, students can tailor this program to meet their goals. Program strengths include guest speakers who provide insight into today's careers, tours of major fashion centers, and internships, which provide valuable career experience.

## Requirements for a Major in Apparel Merchandising and Product Development (AMPD)

State minimum core and discipline specific general education requirements:

(Course work that meets state minimum core requirements is in bold.)

<b>Communication</b>	6-12
ENGL 1013	Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)
ENGL 1023	Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)
COMM, ENGL, JOUR or World Language	
COMM 1313	Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)
<b>U.S. History and Government</b>	3
Choose from U.S. History and Government Core Courses	
<b>Mathematics and Statistics</b>	6-7
MATH 1203	College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (or higher level MATH or STAT class)
	or MATH 1203 College Algebra with Review (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)
AND Any MATH above 1204 or any STAT class	
<b>Sciences</b>	8
Choose from Science Core Courses	
<b>Fine Arts and Humanities</b>	6
Choose from Fine Arts, Humanities Core Courses (Section a & b)	
<b>Social Sciences</b>	9
ECON 2143	Basic Economics: Theory and Practice (Sp, Su, Fa) <sup>1</sup>
PSYC 2003	General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)
ANTH 1023	Introduction to Cultural Anthropology (ACTS Equivalency = ANTH 2013) (Sp, Su, Fa)
	or SOCI 201 General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa)
<b>World Language -- 1013 or higher</b>	3
<b>Human Environmental Science Core</b>	7
HESC 1501	Issues and Trends in Human Environmental Sciences (Sp, Fa)
NUTR 1213	Fundamentals of Nutrition (Sp, Fa)
HESC 2413	Family Relations (Sp, Fa)
	or HESC 1403 Life Span Development (Sp, Fa)

<b>AMPD Requirements</b>	48-52
AMPD 1013	Introduction to Clothing Concepts (Sp, Fa)
AMPD 1023	Introduction to Apparel Production (Sp, Fa)
AMPD 2013	Fashion, Buying and Promotion in a Global Market (Sp, Fa)
AMPD 2033	Computer Based Methods for Apparel (Sp, Fa)
AMPD 2053	Introduction to Textile Science (Sp, Fa)
AMPD 2063	Quality Assessment of Apparel (Sp, Fa)
AMPD 3003	Apparel Production (Sp, Fa)
AMPD 3033	Merchandising Math for the Apparel Industry (Sp, Fa)
AMPD 3043	Fashion Brand Management (Sp, Fa)
AMPD 3071	Apparel Merchandising and Product Development Pre-Internship (Sp)
AMPD 4023	Merchandising Application for the Apparel Industry (Sp, Fa)
AMPD 4033	Computer Aided Textile Design (Sp, Fa)
AMPD 4053	Historic and Contemporary Apparel (Sp, Fa)
AMPD 4063	Advanced Apparel Production (Sp, Fa)
AMPD 4082	Apparel Merchandising and Product Development Internship (Sp, Su, Fa)
AMPD 4093	Apparel Merchandise Planning and Inventory Control (Sp, Fa)
AMPD 4901	AMPD Pre-Study Tour (Sp, Su)
AMPD 491V	AMPD Study Tour (Su)
<b>Computers</b>	6
AGME 2903	Agricultural and Human Environmental Sciences Applications of Microcomputers (Sp, Su, Fa) (or ISYS 1123 or equivalent course)
AGED 4243	Graphic Design in AFLS (Sp, Su, Fa)
<b>General Electives</b> <sup>2</sup>	7-18
Suggested Electives	
AMPD 4011	History of Apparel Through Film to 1900 (Sp, Fa)
AMPD 4103	Evolution of Fashion and Society Through Television Media (Sp, Fa)
AMPD 4111	History of Apparel Through Film from 1900 to Present (Sp, Fa)
MKTG 3433	Introduction to Marketing (Sp, Su, Fa) ((Required for Business Minor -- additional pre-reqs required))
Any 3000-4000 level MKTG	
<b>TOTAL HOURS</b> <sup>3</sup>	120

<sup>1</sup> Students may substitute AGECE 1103 and AGECE 2103 or ECON 2013 and ECON 2023 for ECON 2143.

<sup>2</sup> Elective hours will vary based on exemptions and study tour credits.

<sup>3</sup> A minimum of 36 hours must be completed at the 3000-4000 level, a maximum of 42 hours of online courses allowed. UNIV 1001 must be taken for incoming freshmen.

## Apparel Merchandise and Product Development B.S.H.E.S.

### Ten-Semester Degree Program

Because the Apparel Merchandise and Product Development program requires a summer tour and an internship, it doesn't qualify for the Eight-Semester Degree Program. Go to the Eight-Semester Degree Policy

(p. 73) for university requirements of the program. The program plan below, though, gives a path for completing required courses in a four-year period.

First Year	Units		
	Fall	Spring	Summer
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3-0		
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (or any higher MATH or STAT course)	3		
AMPD 1023 Introduction to Apparel Production (Sp, Fa)	3		
University Core Fine Arts Category "a"	3		
AMPD 1013 Introduction to Clothing Concepts (Sp, Fa)	3		
HESC 1501 Issues and Trends in Human Environmental Sciences (Sp, Fa)	1		
UNIV 1001 University Perspectives (Sp, Su, Fa)	1-0		
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3-0	
HESC 2413 Family Relations (Sp, Fa) or HESC 1403 Life Span Development (Sp, Fa)		3	
AGME 2903 Agricultural and Human Environmental Sciences Applications of Microcomputers (Sp, Su, Fa) <sup>1</sup> or ISYS 1123 Business Application Knowledge - Computer Competency (Sp, Su, Fa)		3	
AMPD 2053 Introduction to Textile Science (Sp, Fa)		3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (if not previously taken)		3	
Or any higher MATH or STAT course			
Year Total:	17-13	15-12	

Second Year	Units		
	Fall	Spring	Summer
Science Core Elective	4		
AMPD 2013 Fashion, Buying and Promotion in a Global Market (Sp, Fa)	3		
PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)	3		
NUTR 1213 Fundamentals of Nutrition (Sp, Fa)	3		
U.S. History Core Elective	3		
AMPD 2063 Quality Assessment of Apparel (Sp, Fa)		3	
AMPD 2033 Computer Based Methods for Apparel (Sp, Fa)		3	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)		3	

AMPD 3071 Apparel Merchandising and Product Development Pre-Internship (Sp)			1
AMPD 4901 AMPD Pre-Study Tour (Sp, Su)			1
ECON 2143 Basic Economics: Theory and Practice (Sp, Su, Fa)			3
AMPD 3033 Merchandising Math for the Apparel Industry (Sp, Fa)			3
AMPD 491V AMPD Study Tour (Su)			6-2
Year Total:	16	17	6-2

Third Year	Units		
	Fall	Spring	Summer
SOCI 2013 General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa) or ANTH 1023 Introduction to Cultural Anthropology (ACTS Equivalency = ANTH 2013) (Sp, Su, Fa)	3		
AMPD 3043 Fashion Brand Management (Sp, Fa)	3		
World Language 1013 or Higher	3		
Science Core Elective	4		
Humanities Core Elective Category "b"			3
AMPD 3003 Apparel Production (Sp, Fa)			3
COMM, ENGL, JOUR or World Language			3
AMPD or General Electives <sup>2</sup>			2-6
AMPD 4082 Apparel Merchandising and Product Development Internship (Sp, Su, Fa)			2
Year Total:	13	11-15	2

Fourth Year	Units		
	Fall	Spring	Summer
AMPD 4063 Advanced Apparel Production (Sp, Fa)	3		
AMPD or General Electives	2-5		
AMPD 4053 Historic and Contemporary Apparel (Sp, Fa)	3		
AMPD 4023 Merchandising Application for the Apparel Industry (Sp, Fa)	3		
AGED 4243 Graphic Design in AFLS (Sp, Su, Fa)			3
AMPD 4093 Apparel Merchandise Planning and Inventory Control (Sp, Fa)			3
AMPD 4033 Computer Aided Textile Design (Sp, Fa)			3
AMPD or General Electives <sup>2</sup>			3-7
Year Total:	11-14	12-16	

Total Units in Sequence: 120

<sup>1</sup> Or equivalent course for ISYS 1123

<sup>2</sup> Elective hours will vary based on exemptions and study tour credits.

## Birth through Kindergarten (BRKD)

Timothy Killian  
Assistant Director  
104 Home Management House  
479-575-7214

The major in Birth through Kindergarten prepares educators to teach infants, toddlers, preschoolers and kindergarteners including those children with disabilities. The program offers students a chance to work in settings that serve young children, including public schools, early-intervention programs, child care and education centers, and residential placement centers. Successful completion of this degree, as specified in the requirements for a major in Birth through Kindergarten, leads to Arkansas' Integrated Birth through Kindergarten/Special Education teacher license.

Passing scores on the Praxis Core (Reading, Writing, and Math) or equivalent ACT or SAT scores is a requirement for formal admission into the Birth through Kindergarten major. Passing scores on the relevant Praxis Content exams (Interdisciplinary Early Childhood Education 5023 & Education of Young Children 5024) are requirements for teacher licensure. Other specific application procedures and degree requirements are available from Birth through Kindergarten faculty advisers.

### Requirements for a major in Birth through Kindergarten (BRKD)

State minimum core and discipline specific general education requirements: (Course work that meets state minimum core requirements is in bold.)

#### University Requirements

UNIV 1001	University Perspectives (Sp, Su, Fa)	1
<b>Communications</b>		9
ENGL 1013	Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	
ENGL 1023	Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)	
COMM 1313	Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa) <sup>1</sup>	
<b>U.S. History or Government</b> <sup>2</sup>		3
<b>Mathematics</b> <sup>2</sup>		3
<b>Sciences</b> <sup>2</sup>		8
<b>Fine Arts and Humanities</b> <sup>2</sup>		6
<b>Social Sciences</b>		9
PSYC 2003	General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)	
SOCI 2013	General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa)	
	or HESC 2603 Rural Families and Communities (Sp)	
HESC 2413	Family Relations (Sp, Fa)	
<b>Birth through Kindergarten Requirements</b>		74
NUTR 1213	Fundamentals of Nutrition (Sp, Fa)	
HDFS 1423	Observation and Foundations for Teaching Young Children (Fa)	

HESC 1501	Issues and Trends in Human Environmental Sciences (Sp, Fa)	
HDFS 2403	Infant and Toddler Development (Sp, Fa)	
HDFS 2433	Child Development (Sp, Fa)	
HDFS 2473	Child Guidance (Sp, Fa)	
	& HDFS 2471L and Child Guidance Laboratory (Sp, Fa)	
HDFS 3333	Language and Literacy Pedagogy for Birth through Kindergarten Educators (Fa)	
HDFS 3453	Parenting and Family Dynamics (Sp, Fa)	
HDFS 4313	Building Family and Community Relationships (Sp)	
HDFS 4332	Curriculum and Assessment: Birth to Three Years (Sp)	
HDFS 4342 & 4342L	Curriculum and Assessment: Three Years through Kindergarten (Fa) and Curriculum and Assessment: Three Years through Kindergarten (Fa)	
HDFS 4373	Field Experience in Birth through Kindergarten Programs (Sp)	
HDFS 4383	Field Experience in Birth through Kindergarten Program II (Sp)	
HDFS 4463	Administration and Leadership in the Helping Professions (Fa) <sup>3</sup>	
HDFS 4763	Analytical Approaches to Research in Human Development and Family Sciences I (Fa)	
HDFS 4773	Analytical Approaches to Research in Human Development & Family Sciences II (Sp)	
CIED 3023	Survey of Exceptionalities (Sp, Su, Fa)	
CIED 3103	Children and Adolescent Literature (Sp, Fa)	
CIED 3113	Emergent and Developmental Literacy (Sp, Fa)	
HIST 3383	Arkansas and the Southwest (Sp, Fa)	
SCWK 3633	Child Welfare: 21st Century Perspectives (Irregular)	
SPED 4413	ABA and Classroom Management for Teachers (Fa)	
SPED 4493	Introduction to Students with Autism Spectrum Disorder (Sp)	
CIED 499V	Special Topics in Curriculum and Instruction Education (Sp, Su, Fa) (Students must complete a CIED 499V (3 hours) in which the topic is in the area of Special Education.)	
<b>General Electives</b>		7
Total Hours		120

#### Other Requirements for the B.S.H.E.S. Degree in Birth through Kindergarten major:<sup>4</sup>

Both candidacy and retention eligibility for the Arkansas Birth through Kindergarten Integrated Licensure Program require that students meet a set of criteria listed in the catalog. These include the submission of a transcript showing a cumulative grade point average of at least 3.0, with grades of C or better in all BRKD courses. Students should consult their academic adviser as they near completion of the above requirements to discuss the application process for the Integrated Birth through Kindergarten/Special Education teacher license in Arkansas. Additional requirements for application to teacher licensure with the State of Arkansas Department of Education include: Praxis Core: (Reading,

Writing, and Mathematics) Praxis Content: (Interdisciplinary Early Childhood Education 5023 & Education of Young Children 5024).

- <sup>1</sup> Please visit the Bumpers College Majors and Minors page (<http://bumperscollege.uark.edu/academics/majors-and-minors>) for a list of communication/intensive courses.
- <sup>2</sup> Go to the University Core Requirements (p. 81).
- <sup>3</sup> HDF5 2473/HDF5 2471L Child Guidance/Lab must be taken prior to enrolling in HDF5 4463.
- <sup>4</sup> Child Maltreatment Certification must be completed.

## Birth through Kindergarten B.S.H.E.S. Eight-Semester Degree Program

Students wishing to follow the degree plan should go to the Eight-Semester Degree Policy (p. 73) for university requirements of the program.

First Year	Units	
	Fall	Spring
UNIV 1001 University Perspectives (Sp, Su, Fa)	1	
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
HESC 1501 Issues and Trends in Human Environmental Sciences (Sp, Fa)	1	
HDFS 1423 Observation and Foundations for Teaching Young Children (Fa)	3	
MATH Core Elective	3	
Fine Arts Core Elective	3	
General Electives	1	
HESC 2413 Family Relations (Sp, Fa)		3
PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)		3
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
Science Core Elective		4
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)		3
Year Total:	15	16

Second Year	Units	
	Fall	Spring
HDFS 2403 Infant and Toddler Development (Sp, Fa) & HDF5 2401L Infant and Toddler Development Laboratory (Sp, Fa)	4	
History Core Elective	3	
Humanities Core Elective	3	
NUTR 1213 Fundamentals of Nutrition (Sp, Fa)	3	
SCWK 3633 Child Welfare: 21st Century Perspectives (Irregular)	3	
HDFS 2433 Child Development (Sp, Fa)		3
HDFS 3453 Parenting and Family Dynamics (Sp, Fa)		3
Science Core Elective		4
CIED 3023 Survey of Exceptionalities (Sp, Su, Fa)		3

SOCI 2013 General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa) or HESC 2603 Rural Families and Communities (Sp)		3
Year Total:	16	16

Third Year	Units	
	Fall	Spring
HDFS 2473 Child Guidance (Sp, Fa) & HDF5 2471L Child Guidance Laboratory (Sp, Fa)	4	
HDFS 4763 Analytical Approaches to Research in Human Development and Family Sciences I (Fa)	3	
CIED 3103 Children and Adolescent Literature (Sp, Fa)	3	
CIED 3113 Emergent and Developmental Literacy (Sp, Fa)	3	
HDFS 3333 Language and Literacy Pedagogy for Birth through Kindergarten Educators (Fa)	3	
HDFS 4332 Curriculum and Assessment: Birth to Three Years (Sp) & HDF5 4332L Curriculum and Assessment: Birth to Three Years Laboratory (Sp)		4
HDFS 4773 Analytical Approaches to Research in Human Development & Family Sciences II (Sp)		3
CIED 499V Special Topics in Curriculum and Instruction Education (Sp, Su, Fa) <small>Students must complete a CIED 499V (3 hours) in which the topic is in the area of Special Education.</small>		3
General Elective		4
Year Total:	16	14

Fourth Year	Units	
	Fall	Spring
HDFS 4342 Curriculum and Assessment: Three Years through Kindergarten (Fa) & HDF5 4342L Curriculum and Assessment: Three Years through Kindergarten (Fa)	4	
HDFS 4463 Administration and Leadership in the Helping Professions (Fa)	3	
HIST 3383 Arkansas and the Southwest (Sp, Fa)	3	
General Elective	2	
SPED 4493 Introduction to Students with Autism Spectrum Disorder (Sp)	3	
HDFS 4313 Building Family and Community Relationships (Sp)		3
HDFS 4373 Field Experience in Birth through Kindergarten Programs (Sp)		3
HDFS 4383 Field Experience in Birth through Kindergarten Program II (Sp)		3
SPED 4413 ABA and Classroom Management for Teachers (Fa)		3
Year Total:	15	12

Total Units in Sequence: 120



# General Human Environmental Sciences (HESC)

## Faculty

Cheryl Leigh Southward, Associate Professor

Leigh Southward  
Associate Professor  
212 Home Economics Building  
479-575-4311

The general human environmental sciences curriculum serves students seeking a background in all of the subject-matter areas of human environmental sciences. The general curriculum prepares students for careers in social services, business, and the Cooperative Extension Service. Liberal elective hours allow students to select courses and programs to meet individual needs.

Students may be certified by the Arkansas State Board of Education to teach family and consumer sciences in Arkansas public schools by combining the pre-professional education courses as electives and completing the Master of Arts in Teaching (M.A.T.) (p. 419) degree requirements under College Academic Regulations. At the beginning of the sophomore year, students should consult with their advisers to schedule the general education and pre-professional education courses.

## Requirements for a Major in General Human Environmental Sciences (HESC)

State minimum core and discipline specific general education requirements: (Course work that meets state minimum core requirements is in bold)

<b>Communications</b>	3-9
ENGL 1013	Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa) (unless exempt)
ENGL 1023	Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa) (unless exempt)
COMM 1313	Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)
<b>History and Government</b>	3
Choose from U.S. History and Government Core courses	
<b>Mathematics and Computers</b>	6-7
Choose MATH Core course	
CIED 1003	Introduction to Technology in Education (Sp, Su, Fa)
<b>Science</b>	8
Select one of the following:	
CHEM 1073	Fundamentals of Chemistry (ACTS Equivalency = & CHEM 1071L CHEM 1214 Lecture) (Su, Fa) and Fundamentals of Chemistry Laboratory (ACTS Equivalency = CHEM 1214 Lab) (Fa)
or CHEM 111	University Chemistry I (ACTS Equivalency = CHEM & CHEM 111(1414 Lecture) (Su, Fa) and University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)
Choose from Science Core courses with lab	
<b>Fine Arts and Humanities</b>	6
Choose from Fine Arts, Humanities Core courses	

<b>Social Sciences</b>	9
PSYC 2003	General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)
Choose Social Sciences Core courses	
<b>Health/Technical Education</b>	6
PBHL 1103	Personal Health and Safety (Sp, Fa)
CATE 4803	Problems in Career & Technical Education (Sp, Su, Fa)
<b>GHEs Requirements</b>	44
AMPD 1013	Introduction to Clothing Concepts (Sp, Fa)
AMPD 1023	Introduction to Apparel Production (Sp, Fa)
NUTR 1213	Fundamentals of Nutrition (Sp, Fa)
HESC 1403	Life Span Development (Sp, Fa)
HESC 1501	Issues and Trends in Human Environmental Sciences (Sp, Fa)
HOSP 1603	Introduction to Hospitality Management (Sp, Fa)
AMPD 2053	Introduction to Textile Science (Sp, Fa)
NUTR 2112	Principles of Foods (Sp, Fa)
& NUTR 2111L	and Principles of Foods Laboratory (Sp, Fa)
NUTR 2203	Sports Nutrition (Sp, Fa)
HESC 2413	Family Relations (Sp, Fa)
HDFS 2433	Child Development (Sp, Fa)
HDFS 2473	Child Guidance (Sp, Fa)
& HDFS 2471L	and Child Guidance Laboratory (Sp, Fa)
HDFS 3423	Adolescent Development (Odd years, Sp)
HDFS 3453	Parenting and Family Dynamics (Sp, Fa)
HDFS 2483	Family Financial Management (Sp, Fa)
General Electives (27 hours must be 3000- or 4000-level)	28-35
Total Hours	120

## General Human Environmental Sciences B.S.H.E.S.

### Eight-Semester Degree Program

Students wishing to follow the degree plan should go to the Eight-Semester Degree Policy (p. 73) for university requirements of the program.

First Year	Units	
	Fall	Spring
HESC 1403	Life Span Development (Sp, Fa)	3
HESC 1501	Issues and Trends in Human Environmental Sciences (Sp, Fa)	1
ENGL 1013	Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa) (unless exempt)	3
MATH 1203	College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (or higher level math) or MATH 1204 College Algebra with Review (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3-4
CIED 1003	Introduction to Technology in Education (Sp, Su, Fa)	3
Fine Arts Core Elective (category "a")		3
General Elective		3
PSYC 2003	General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)	3

ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa) (unless exempt)	3
AMPD 1013 Introduction to Clothing Concepts (Sp, Fa)	3
HESC 2413 Family Relations (Sp, Fa)	3
Year Total:	16

Second Year		Units	
	Fall	Spring	
AMPD 1023 Introduction to Apparel Production (Sp, Fa)	3		
Select one of the following:	4		
CHEM 1073 Fundamentals of Chemistry (ACTS Equivalency = CHEM 1214 Lecture) (Su, Fa) & CHEM 1071L Fundamentals of Chemistry Laboratory (ACTS Equivalency = CHEM 1214 Lab) (Fa) or CHEM 1103 and CHEM 1101L			
HOSP 1603 Introduction to Hospitality Management (Sp, Fa)	3		
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3		
PBHL 1103 Personal Health and Safety (Sp, Fa)	3		
AMPD 2053 Introduction to Textile Science (Sp, Fa)	3		
Social Science Core Elective	3		
HDFS 2473 Child Guidance (Sp, Fa) & HDFS 2471L Child Guidance Laboratory (Sp, Fa)	4		
HDFS 3423 Adolescent Development (Odd years, Sp)	3		
Humanities Core Elective (category "b")	3		
Year Total:	16	16	

Third Year		Units	
	Fall	Spring	
HDFS 2433 Child Development (Sp, Fa)	3		
Social Science Core Elective (Select one of the following):	3		
ANTH 1023 Introduction to Cultural Anthropology (ACTS Equivalency = ANTH 2013) (Sp, Su, Fa) or SOCI 2013 General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa)			
NUTR 1213 Fundamentals of Nutrition (Sp, Fa)	3		
Science Core Elective with Lab	4		
NUTR 2112 Principles of Foods (Sp, Fa) & NUTR 2111L Principles of Foods Laboratory (Sp, Fa)	3		
NUTR 2203 Sports Nutrition (Sp, Fa)	3		
CATE 4803 Problems in Career & Technical Education (Sp, Su, Fa)	3		
General Electives - upper division	6		
General Electives	3		
Year Total:	16	15	

Fourth Year		Units	
	Fall	Spring	
HDFS 3453 Parenting and Family Dynamics (Sp, Fa)	3		
U.S. History Core Elective	3		
General Electives - upper division	6		
General Electives	3		
HDFS 2483 Family Financial Management (Sp, Fa)			3
General Electives			1-2
General Electives - upper division			6
Year Total:	15	11	

Total Units in Sequence: 120

## Human Development and Family Sciences (HDFS)

Timothy Killian  
Assistant Director  
104 Home Management House  
479-575-7214

Students majoring in human development and family sciences prepare for one of the fastest growing employment opportunities in the country. The human services area includes jobs that serve people from conception through the last stages of life. Students develop skills for working with individuals and families in governmental, private, and nonprofit organizations. In addition to the major in Human Development and Family Sciences, the program offers a major in Birth through Kindergarten (p. 149).

### Requirements for a Major in Human Development and Family Sciences (HDFS)

State minimum core and discipline specific general education requirements:  
(Course work that meets state minimum core requirements is in bold.)

#### University Requirements

UNIV 1001	University Perspectives (Sp, Su, Fa)	1
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#### Communications

ENGL 1013	Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	9
ENGL 1023	Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)	
COMM 1313	Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	

#### History and Government <sup>1</sup>

Choose from US History and Government Core Courses

#### Mathematics <sup>1</sup>

Choose from Mathematics Core Courses

#### Sciences <sup>1</sup>

Choose from Science Core courses

#### Fine Arts and Humanities <sup>1</sup>

PHIL 2103	Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)	6
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Choose an additional 3 credit hours from Fine Arts, Humanities Core courses

**Social Sciences** 9

PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)

SOCI 2013 General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa)

HESC 2413 Family Relations (Sp, Fa)

**HDFS Requirements** 55

NUTR 1213 Fundamentals of Nutrition (Sp, Fa)

HESC 1403 Life Span Development (Sp, Fa)

HESC 1501 Issues and Trends in Human Environmental Sciences (Sp, Fa)

HDFS 2433 Child Development (Sp, Fa)<sup>2</sup>

HDFS 2483 Family Financial Management (Sp, Fa)

HESC 2603 Rural Families and Communities (Sp)

HDFS 3423 Adolescent Development (Odd years, Sp)

HDFS 3443 Families in Crisis (Fa)

HDFS 3453 Parenting and Family Dynamics (Sp, Fa)<sup>2</sup>

HESC 4423 Adult Development (Fa)<sup>2</sup>

HDFS 4463 Administration and Leadership in the Helping Professions (Fa)<sup>2</sup>

HDFS 4473 Multicultural Families (Fa)<sup>2</sup>

HDFS 4483 Internship in Human Development and Family Studies (Sp, Su, Fa)

HDFS 4493 Public Policy Advocacy for Children and Families (Fa)

HDFS 4603 Environmental Sociology (Fa)

HDFS 4763 Analytical Approaches to Research in Human Development and Family Sciences I (Fa)<sup>2</sup>

HDFS 4773 Analytical Approaches to Research in Human Development & Family Sciences II (Sp)<sup>2</sup>

HDFS 4773 Analytical Approaches to Research in Human Development & Family Sciences II (Sp)<sup>2</sup>

SCWK 3163 On Death and Dying (Irregular)<sup>2</sup>

SCWK 3633 Child Welfare: 21st Century Perspectives (Irregular)

**HDFS Electives**<sup>3</sup> 12

Choose 12 hours from the list of the following courses

HDFS 2403 Infant and Toddler Development (Sp, Fa)<sup>2</sup>  
or HDFS 2404 Infant and Toddler Development Laboratory (Sp, Fa)

HDFS 2443 The Hospitalized Child: Child Life Programming (Sp)

HDFS 2473 Child Guidance (Sp, Fa)  
& HDFS 2471L and Child Guidance Laboratory (Sp, Fa)<sup>2</sup>

HDFS 4413 Infancy: Brain, Learning and Social Cognition (Even years, Sp)

HESC 4233 Childhood Obesity: Context and Preventions (Su)

HDFS 4332 Curriculum and Assessment: Birth to Three Years & 4332L (Sp)  
and Curriculum and Assessment: Birth to Three Years Laboratory (Sp)

HDFS 4342 Curriculum and Assessment: Three Years through & 4342L (Fa)  
and Curriculum and Assessment: Three Years through Kindergarten (Fa)

CIED 3023 Survey of Exceptionalities (Sp, Su, Fa)

CIED 3103 Children and Adolescent Literature (Sp, Fa)

CIED 3113 Emergent and Developmental Literacy (Sp, Fa)

CNED 3053 The Helping Relationship (Sp, Fa)

PBHL 1303 Introduction to Human Sexuality (Sp, Fa)

PBHL 2663 Terminology for the Health Professions (Sp)

**General Electives** 14

Total Hours 120

<sup>1</sup> See University Core Requirements (p. 81).

<sup>2</sup> Course has prerequisites or co-requisites.

<sup>3</sup> Students must choose at least one upper division HDFS elective, and complete a minimum of 40 upper division credit hours.

First Year	Units	
	Fall	Spring
UNIV 1001 University Perspectives (Sp, Su, Fa)	1	
HESC 1501 Issues and Trends in Human Environmental Sciences (Sp, Fa)	1	
HESC 1403 Life Span Development (Sp, Fa)	3	
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH Core Elective	3	
Fine Arts Core Elective	3	
General Elective	3	
HESC 2413 Family Relations (Sp, Fa)		3
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)		3
Science Core Elective		4
PHIL 2103 Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)		3
Year Total:	17	16

Second Year	Units	
	Fall	Spring
NUTR 1213 Fundamentals of Nutrition (Sp, Fa)	3	
PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)	3	
SCWK 3633 Child Welfare: 21st Century Perspectives (Irregular)	3	
History Core Elective	3	
Science Core Elective	4	
HDFS 2433 Child Development (Sp, Fa)		3
SOCI 2013 General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa)		3
HDFS 3423 Adolescent Development (Odd years, Sp)		3
HESC 2603 Rural Families and Communities (Sp)		3
General Electives		3
Year Total:	16	15

Third Year	Units	
	Fall	Spring
HDFS 3443 Families in Crisis (Fa)	3	
HDFS 4473 Multicultural Families (Fa)	3	
HDFS 2483 Family Financial Management (Sp, Fa)	3	
General Elective	3	
HDFS Elective	3	
SCWK 3163 On Death and Dying (Irregular)		3
HDFS 3453 Parenting and Family Dynamics (Sp, Fa)		3
HDFS 4603 Environmental Sociology (Fa)		3
General Elective		2
HDFS Elective		3
Year Total:	15	14

Fourth Year	Units	
	Fall	Spring
HESC 4423 Adult Development (Fa)	3	
HDFS 4463 Administration and Leadership in the Helping Professions (Fa)	3	
HDFS 4493 Public Policy Advocacy for Children and Families (Fa)	3	
HDFS 4763 Analytical Approaches to Research in Human Development and Family Sciences I (Fa)	3	
HDFS Electives	3	
HDFS 4483 Internship in Human Development and Family Studies (Sp, Su, Fa)		3
HDFS 4773 Analytical Approaches to Research in Human Development & Family Sciences II (Sp)		3
General Elective		3
HDFS Elective		3
Year Total:	15	12

Total Units in Sequence: 120

## Minor in Human Development and Family Sciences (HDFS-M)

### Required Courses 9

HESC 1403	Life Span Development (Sp, Fa)
HESC 2413	Family Relations (Sp, Fa)
HDFS 2433	Child Development (Sp, Fa)

### Choose from: 9

HDFS 2443	The Hospitalized Child: Child Life Programming (Sp)
HDFS 2403 & HDFS 2401L	Infant and Toddler Development (Sp, Fa) and Infant and Toddler Development Laboratory (Sp, Fa)
HDFS 2473 & HDFS 2471L	Child Guidance (Sp, Fa) and Child Guidance Laboratory (Sp, Fa)
HDFS 2483	Family Financial Management (Sp, Fa)
HESC 2603	Rural Families and Communities (Sp)
HDFS 3423	Adolescent Development (Odd years, Sp)
HDFS 3443	Families in Crisis (Fa)
HDFS 3453	Parenting and Family Dynamics (Sp, Fa)

HESC 4233	Childhood Obesity: Context and Preventions (Su)
HDFS 4313	Building Family and Community Relationships (Sp)
HDFS 4413	Infancy: Brain, Learning and Social Cognition (Even years, Sp)
HESC 4423	Adult Development (Fa)
HDFS 4473	Multicultural Families (Fa)
HDFS 4493	Public Policy Advocacy for Children and Families (Fa)
HDFS 4603	Environmental Sociology (Fa)

Total Hours 18

## Human Nutrition and Hospitality Innovation (HNHI)

Kelly A. Way  
 Assistant Director  
 17D Home Economics Building  
 479-575-4985

The curriculum in Human Nutrition and Hospitality Innovation allows students to prepare for a career in a specialized area of foods and nutrition by completing a common set of basic courses and one of the concentrations:

1. Nutrition and Dietetics (NUTR)
2. General Foods and Nutrition (GFNU), and
3. Hospitality Innovation (HOSP)

Interest and aptitude for the biological and physical sciences that support nutrition science are needed to successfully complete concentrations in Nutrition and Dietetics and General Foods and Nutrition. Hospitality Innovation is the best choice for those students who have an interest in management and who enjoy working with people.

### Nutrition and Dietetics (NUTR)

Nutrition and Dietetics is for the student who intends to become a Registered Dietitian (RD), a credential that is required for one to counsel individuals related to any type of diet. Courses required are those necessary as prerequisites to application for a post-baccalaureate dietetic internship. Upon successful completion of the post-baccalaureate dietetic internship, the graduate is eligible to take the Registration Exam, the board examination for the RD credential. Graduates of this program who choose not to apply for a post-baccalaureate dietetic internship are eligible upon completion of the Bachelor's degree to take the board examination to become a Dietetic Technician, Registered (DTR).

### Nutrition and Dietetics Concentration Requirements

State minimum core and discipline specific general education requirements:  
 (Course work that meets state minimum core requirements is in bold.)

#### Communications 6-12

ENGL 1013	Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa) (unless exempt)
ENGL 1023	Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa) (unless exempt)
COMM 1313	Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)

Select one of the following:

ENGL 3053	Technical and Report Writing (ACTS Equivalency = ENGL 2023) (Sp, Fa)
JOUR 3123	Feature Writing (Sp, Fa)
AGED 3143	Communicating Agriculture to the Public (Sp, Su, Fa)

**U.S. History and Government** 3

Choose from U.S. History and Government Core Course

**Mathematics** 3

Choose from Mathematics Core Courses

**Sciences** 23-27

Select 4-8 hours:

CHEM 1073 Fundamentals of Chemistry (ACTS Equivalency = & CHEM 1071L CHEM 1214 Lecture) (Su, Fa)  
and Fundamentals of Chemistry Laboratory (ACTS Equivalency = CHEM 1214 Lab) (Fa)

Or

CHEM 1103 University Chemistry I (ACTS Equivalency = & CHEM 1101L CHEM 1414 Lecture) (Su, Fa)  
& CHEM 1123 and University Chemistry I Laboratory (ACTS & CHEM 1121L Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)  
and University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa)  
and University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)

Select 8 hours:

BIOL 2213 Human Physiology (ACTS Equivalency = BIOL & BIOL 2211L 2414 Lecture) (Sp, Fa)  
& BIOL 2443 and Human Physiology Laboratory (ACTS & BIOL 2441L Equivalency = BIOL 2414 Lab) (Sp, Fa)  
and Human Anatomy (ACTS Equivalency = BIOL 2404 Lecture) (Sp, Su, Fa)  
and Human Anatomy Laboratory (ACTS Equivalency = BIOL 2404 Lab) (Sp, Su, Fa)

Or

BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL & BIOL 1541L 1014 Lecture) (Sp, Su, Fa)  
& ANSC 3032 and Principles of Biology Laboratory (ACTS & ANSC 3042 Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)  
and Animal Physiology I (Fa)  
and Animal Physiology II (Sp)

And take:

CHEM 2613 Organic Physiological Chemistry (ACTS & CHEM 2611L Equivalency = CHEM 1224 Lecture) (Sp, Su, Fa)  
and Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su, Fa)

CHEM 3813 Elements of Biochemistry (Sp, Su, Fa)

BIOL 2013 General Microbiology (ACTS Equivalency = BIOL & BIOL 2011L 2004 Lecture) (Sp, Su, Fa)  
and General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa)

**Fine Arts and Humanities** 6

Select two Fine Arts and Humanities Core Courses

**Social Sciences** 9

PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)

HESC 2413 Family Relations (Sp, Fa)

Select one Social Science Core Course

**NUTR Requirements:** 50

NUTR 1201 Introduction to the Dietetic Profession (Sp, Fa)

HESC 1501 Issues and Trends in Human Environmental Sciences (Sp, Fa)

NUTR 1213 Fundamentals of Nutrition (Sp, Fa)

NUTR 2112 Principles of Foods (Sp, Fa)  
& NUTR 2111L and Principles of Foods Laboratory (Sp, Fa)

NUTR 2203 Sports Nutrition (Sp, Fa)

FDSC 2503 Food Safety and Sanitation (Sp, Fa)

HOSP 2603 Purchasing and Cost Control (Sp, Fa)

NUTR 3203 Human Nutrition (Sp)

NUTR 3213 Communication in Nutrition and Dietetics (Fa)

HOSP 3603 Menu, Layout & Food Preparation (Sp, Fa)

HOSP 3653 Food Systems Management (Fa)

NUTR 4103 Experimental Foods (Sp)

NUTR 4213 Advanced Nutrition (Fa)

NUTR 4223 Life Cycle Nutrition (Fa)

NUTR 4243 Community Nutrition (Sp)

NUTR 4263 Medical Nutrition Therapy I (Fa)

NUTR 4273 Medical Nutrition Therapy II (Sp)

AGST 4023 Principles of Experimentation (Fa)

**General Electives** 10-20

Recommend:

PHIL 2103 Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)

Total Hours 120

## Human Nutrition and Hospitality Innovation B.S.H.E.S., Nutrition and Dietetics Concentration Eight-Semester Degree Program

Students wishing to follow the degree plan in Human Nutrition and Hospitality Innovation should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program.

	Units	
	Fall	Spring
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) & CHEM 1101L University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa) or CHEM 1073 and CHEM 1071L	4	
HESC 1501 Issues and Trends in Human Environmental Sciences (Sp, Fa)	1	
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)		3
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (OR Higher Level Math)		3
NUTR 1201 Introduction to the Dietetic Profession (Sp, Fa)		1
NUTR 1213 Fundamentals of Nutrition (Sp, Fa)		3

CHEM 1123 University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) & CHEM 1121L University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)	4
Fine Arts Core Elective	3
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa) (unless exempt)	3
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3
Humanities Core Elective	3
Year Total:	15 16

Second Year		Units	
	Fall	Spring	
PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)	3		
NUTR 2112 Principles of Foods (Sp, Fa) & NUTR 2111L Principles of Foods Laboratory (Sp, Fa)	3		
Please choose one of the following:	2-4		
BIOL 2443 Human Anatomy (ACTS Equivalency = BIOL 2404 Lecture) (Sp, Su, Fa) & BIOL 2441L Human Anatomy Laboratory (ACTS Equivalency = BIOL 2404 Lab) (Sp, Su, Fa)			
ANSC 3032 Animal Physiology I (Fa)			
BIOL 2213 Human Physiology (ACTS Equivalency = BIOL 2414 Lecture) (Sp, Fa) & BIOL 2211L Human Physiology Laboratory (ACTS Equivalency = BIOL 2414 Lab) (Sp, Fa)			
HOSP 2603 Purchasing and Cost Control (Sp, Fa)	3		
FDSC 2503 Food Safety and Sanitation (Sp, Fa)	3		
Please choose one of the following:	2-4		
ANSC 3042 Animal Physiology II (Sp)			
BIOL 2213 Human Physiology (ACTS Equivalency = BIOL 2414 Lecture) (Sp, Fa) & BIOL 2211L Human Physiology Laboratory (ACTS Equivalency = BIOL 2414 Lab) (Sp, Fa)			
BIOL 2443 Human Anatomy (ACTS Equivalency = BIOL 2404 Lecture) (Sp, Su, Fa) & BIOL 2441L Human Anatomy Laboratory (ACTS Equivalency = BIOL 2404 Lab) (Sp, Su, Fa)			
ENGL 3053 Technical and Report Writing (ACTS Equivalency = ENGL 2023) (Sp, Fa) or AGED 3143 Communicating Agriculture to the Public (Sp, Su, Fa)	3		
CHEM 2613 Organic Physiological Chemistry (ACTS Equivalency = CHEM 1224 Lecture) (Sp, Su, Fa) & CHEM 2611L Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su, Fa)	4		
HESC 2413 Family Relations (Sp, Fa)	3		
NUTR 2203 Sports Nutrition (Sp, Fa)	3		
Year Total:	14	17	

Third Year		Units	
	Fall	Spring	
General Electives	6		
NUTR 3213 Communication in Nutrition and Dietetics (Fa)	3		
HOSP 3653 Food Systems Management (Fa)	3		
CHEM 3813 Elements of Biochemistry (Sp, Su, Fa)	3		
BIOL 2013 General Microbiology (ACTS Equivalency = BIOL 2004 Lecture) (Sp, Su, Fa) & BIOL 2011L General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa)			4
AGST 4023 Principles of Experimentation (Fa) (or Equivalent Elective)			3
NUTR 3203 Human Nutrition (Sp)			3
U.S. History University Core Elective			3
Year Total:	15	13	

Fourth Year		Units	
	Fall	Spring	
Social Science Core Elective	3		
HOSP 3603 Menu, Layout & Food Preparation (Sp, Fa)	3		
NUTR 4223 Life Cycle Nutrition (Fa)	3		
NUTR 4263 Medical Nutrition Therapy I (Fa)	3		
NUTR 4213 Advanced Nutrition (Fa)	3		
NUTR 4103 Experimental Foods (Sp)			3
NUTR 4243 Community Nutrition (Sp)			3
NUTR 4273 Medical Nutrition Therapy II (Sp)			3
General Electives			6
Year Total:	15	15	

Total Units in Sequence: 120

## General Foods and Nutrition Concentration (GFNU)

Students taking this concentration are encouraged to select an approved minor from the Bumpers, Walton, or Fulbright colleges or plan other combinations of courses to prepare for non-traditional vocations including work in community or government sponsored programs, wellness and health maintenance centers, public relations in the food industry, TV/ media outlets for food and nutrition information, and international food or nutritional programs.

### General Foods & Nutrition Concentration Requirements:

State minimum core and discipline specific general education requirements:  
(Course work that meets state minimum core requirements is in bold.)

Communications		6-12
ENGL 1013	Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa) (unless exempt)	
ENGL 1023	Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa) (unless exempt)	

COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)

Select one of the following:

ENGL 3053 Technical and Report Writing (ACTS Equivalency = ENGL 2023) (Sp, Fa)

JOUR 3123 Feature Writing (Sp, Fa)

AGED 3143 Communicating Agriculture to the Public (Sp, Su, Fa)

**U.S. History and Government** 3

Choose from U.S. History and Government Core Courses

**Mathematics** 3

Choose MATH Core Course

**Sciences** 23-27

Select 4 or 8 hours:

CHEM 1073 Fundamentals of Chemistry (ACTS Equivalency = & CHEM 1071L CHEM 1214 Lecture) (Su, Fa)  
and Fundamentals of Chemistry Laboratory (ACTS Equivalency = CHEM 1214 Lab) (Fa)

Or

CHEM 1103 University Chemistry I (ACTS Equivalency = & CHEM 1101L CHEM 1414 Lecture) (Su, Fa)  
& CHEM 1123 and University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)  
& CHEM 1121L Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)  
and University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa)  
and University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)

Select 8 hours:

BIOL 2213 Human Physiology (ACTS Equivalency = BIOL & BIOL 2211L 2414 Lecture) (Sp, Fa)  
& BIOL 2443 and Human Physiology Laboratory (ACTS Equivalency = BIOL 2414 Lab) (Sp, Fa)  
& BIOL 2441L and Human Anatomy (ACTS Equivalency = BIOL 2404 Lecture) (Sp, Su, Fa)  
and Human Anatomy Laboratory (ACTS Equivalency = BIOL 2404 Lab) (Sp, Su, Fa)

Or

BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL & BIOL 1541L 1014 Lecture) (Sp, Su, Fa)  
& ANSC 3032 and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)  
& ANSC 3042 and Animal Physiology I (Fa)  
and Animal Physiology II (Sp)

And take:

CHEM 2613 Organic Physiological Chemistry (ACTS & CHEM 2611L Equivalency = CHEM 1224 Lecture) (Sp, Su, Fa)  
and Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su, Fa)

CHEM 3813 Elements of Biochemistry (Sp, Su, Fa)

BIOL 2013 General Microbiology (ACTS Equivalency = BIOL & BIOL 2011L 2004 Lecture) (Sp, Su, Fa)  
and General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa)

**Physical Education (see course listing under PEAC or DEAC)** 2

**Fine Arts and Humanities** 6

Choose from Fine Arts, Humanities Core Courses (one from category "a" and one from category "b")

**Social Sciences** 9

PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)

HESC 2413 Family Relations (Sp, Fa)

Choose Social Science Core Course

**GFNU Requirements** 35-37

NUTR 1201 Introduction to the Dietetic Profession (Sp, Fa)  
or HOSP 16(Introduction to Hospitality Management) (Sp, Fa)

NUTR 1213 Fundamentals of Nutrition (Sp, Fa)

HESC 1501 Issues and Trends in Human Environmental Sciences (Sp, Fa)

NUTR 2112 Principles of Foods (Sp, Fa)  
& NUTR 2111L and Principles of Foods Laboratory (Sp, Fa)

NUTR 2203 Sports Nutrition (Sp, Fa)

HOSP 2603 Purchasing and Cost Control (Sp, Fa)

NUTR 3203 Human Nutrition (Sp)

NUTR 3213 Communication in Nutrition and Dietetics (Fa)

HOSP 3603 Menu, Layout & Food Preparation (Sp, Fa)

HOSP 3653 Food Systems Management (Fa)

NUTR 4213 Advanced Nutrition (Fa)

NUTR 4223 Life Cycle Nutrition (Fa)

NUTR 4243 Community Nutrition (Sp)

Electives 21-33

Total Hours 120

## Human Nutrition and Hospitality Innovation B.S.H.E.S., General Foods and Nutrition Concentration Eight-Semester Degree Program

Students wishing to follow the degree plan in Human Nutrition and Hospitality Innovation should go to the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program.

First Year	Units	
	Fall	Spring
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) & CHEM 1101L University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)	4	
NUTR 1213 Fundamentals of Nutrition (Sp, Fa)	3	
HESC 1501 Issues and Trends in Human Environmental Sciences (Sp, Fa)	1	
NUTR 1201 Introduction to the Dietetic Profession (Sp, Fa)	1	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (or higher level math)	3	
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa) (unless exempt)	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa) (unless exempt)		3
PEAC or DEAC		2

COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3	
CHEM 1123 University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) & CHEM 1121L University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)	4	
History Core Elective	3	
Year Total:	15	15

<b>Second Year</b>		<b>Units</b>
	<b>Fall</b>	<b>Spring</b>

Choose from one of the following:	2-4	
BIOL 2213 Human Physiology (ACTS Equivalency = BIOL 2414 Lecture) (Sp, Fa) & BIOL 2211L Human Physiology Laboratory (ACTS Equivalency = BIOL 2414 Lab) (Sp, Fa)		
ANSC 3032 Animal Physiology I (Fa)		
BIOL 2443 Human Anatomy (ACTS Equivalency = BIOL 2404 Lecture) (Sp, Su, Fa) & BIOL 2441L Human Anatomy Laboratory (ACTS Equivalency = BIOL 2404 Lab) (Sp, Su, Fa)		
NUTR 2112 Principles of Foods (Sp, Fa) & NUTR 2111L Principles of Foods Laboratory (Sp, Fa)	3	
Fine Arts/Humanities Core Elective	3	
General Elective	3	
HESC 2413 Family Relations (Sp, Fa)	3	
Choose from following courses:	2-4	

ANSC 3042 Animal Physiology II (Sp)		
BIOL 2213 Human Physiology (ACTS Equivalency = BIOL 2414 Lecture) (Sp, Fa) & BIOL 2211L Human Physiology Laboratory (ACTS Equivalency = BIOL 2414 Lab) (Sp, Fa)		
BIOL 2443 Human Anatomy (ACTS Equivalency = BIOL 2404 Lecture) (Sp, Su, Fa) & BIOL 2441L Human Anatomy Laboratory (ACTS Equivalency = BIOL 2404 Lab) (Sp, Su, Fa)		
CHEM 2613 Organic Physiological Chemistry (ACTS Equivalency = CHEM 1224 Lecture) (Sp, Su, Fa) & CHEM 2611L Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su, Fa)	4	
PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)	3	
NUTR 2203 Sports Nutrition (Sp, Fa)	3	
Year Total:	16	14

<b>Third Year</b>		<b>Units</b>
	<b>Fall</b>	<b>Spring</b>

HOSP 3653 Food Systems Management (Fa)	3	
NUTR 3213 Communication in Nutrition and Dietetics (Fa)	3	

Fine Arts/Humanities Core Elective	3	
HOSP 2603 Purchasing and Cost Control (Sp, Fa)	3	
CHEM 3813 Elements of Biochemistry (Sp, Su, Fa)	3	
Social Science Core Elective		3
NUTR 4243 Community Nutrition (Sp)		3
Select one of the following:		3
JOUR 3123 Feature Writing (Sp, Fa)		
AGED 3143 Communicating Agriculture to the Public (Sp, Su, Fa)		
General Elective		3
ENGL 3053 Technical and Report Writing (ACTS Equivalency = ENGL 2023) (Sp, Fa)		
NUTR 3203 Human Nutrition (Sp)		3
Year Total:	15	15

<b>Fourth Year</b>		<b>Units</b>
	<b>Fall</b>	<b>Spring</b>

BIOL 2013 General Microbiology (ACTS Equivalency = BIOL 2004 Lecture) (Sp, Su, Fa) & BIOL 2011L General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa)	4	
General Elective		3
NUTR 4213 Advanced Nutrition (Fa)		3
NUTR 4223 Life Cycle Nutrition (Fa)		3
HOSP 3603 Menu, Layout & Food Preparation (Sp, Fa)		3
General Electives		8-14
Year Total:	16	14

Total Units in Sequence: 120

## Hospitality Innovation Concentration (HOSP)

Students in the hospitality innovation concentration prepare themselves for managerial positions in the restaurant and hospitality industry. This dynamic curriculum provides students with skills in foods and business, as well as hospitality and restaurant management. Students have the opportunity to manage and operate a restaurant on campus. Students obtain hands-on experience by completing 500 hours of satisfactory, verifiable work experience in the hospitality and restaurant industry, usually completed during the summer and on part-time jobs during the school year. This work experience must be completed prior to graduation. A management internship, which allows students to acquire practical management experience and specialized knowledge from supervised work in a hotel, restaurant, or other hospitality-related business, is also part of this degree. Students in this program can complete a minor in business.

## Hospitality Innovation Concentration Requirements:

All HOSP students must maintain a minimum of a "C" average in all hospitality core required courses. State minimum core and discipline specific general education requirements:  
(Course work that meets state minimum core requirements is in bold.)

### Communications



ENGL 1013	Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa) (unless exempt)	
ENGL 1023	Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa) (unless exempt)	
AGED 3143	Communicating Agriculture to the Public (Sp, Su, Fa)	
COMM 1313	Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	
<b>U.S. History and Government</b>		<b>3</b>
<b>Choose from U.S. History and Government Core courses</b>		
<b>Mathematics and Computers</b>		<b>6-7</b>
MATH 1203	College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	
	or MATH 1204 College Algebra with Review (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	
MATH 2053	Finite Mathematics (Sp, Su, Fa)	
<b>Sciences</b>		<b>8</b>
<b>Choose from University Core science courses</b>		
<b>Fine Arts and Humanities</b>		<b>6</b>
<b>Choose from Fine Arts, Humanities Core courses (choose one from category "a" and one from category "b")</b>		
<b>Social Sciences</b>		<b>9</b>
ECON 2143	Basic Economics: Theory and Practice (Sp, Su, Fa)	
HESC 2413	Family Relations (Sp, Fa)	
PSYC 2003	General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)	
	or SOCI 201 General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa)	
<b>HOSP Requirements</b>		<b>35</b>
HESC 1501	Issues and Trends in Human Environmental Sciences (Sp, Fa)	
NUTR 1213	Fundamentals of Nutrition (Sp, Fa)	
HOSP 1603	Introduction to Hospitality Management (Sp, Fa)	
HOSP 2603	Purchasing and Cost Control (Sp, Fa)	
HOSP 2633	Hotel and Resort Operations Management (Sp, Fa)	
HOSP 3603	Menu, Layout & Food Preparation (Sp, Fa)	
HOSP 3601L	Menu, Layout & Food Prep Lab (Sp, Fa)	
HOSP 3633	Front Office Revenue Management (Sp)	
HOSP 3653	Food Systems Management (Fa)	
HOSP 4633	Hospitality Operations and Financial Analysis (Sp, Fa)	
HOSP 4643	Meetings, Events and Convention Management (Fa)	
HOSP 4653	Global Travel and Tourism Management (Sp)	
HOSP 4693	Hospitality Management Internship (Sp, Su, Fa) <sup>1</sup>	
<b>Additional Requirements</b>		<b>15</b>
AGEC 2142	Agribusiness Financial Records (Sp, Fa) & AGECE 2141L and Agribusiness Financial Records Lab (Sp, Fa) or ACCT 201 Accounting Principles (Sp, Su, Fa)	
AGEC 3303	Food and Agricultural Marketing (Sp, Su, Fa) or MKTG 3436 Introduction to Marketing (Sp, Su, Fa)	
FDSC 2503	Food Safety and Sanitation (Sp, Fa)	

AGME 2903 Agricultural and Human Environmental Sciences Applications of Microcomputers (Sp, Su, Fa)  
or ISYS 1123 Business Application Knowledge - Computer Competency (Sp, Su, Fa)

BLAW 2013 The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa)

**Additional Professional and Business courses** 9

From the departmental codes ACCT, AGECE, ECON, FDSC, FINN, ISYS, MGMT, MKTG, SCMT, OMTG, WCOB and HOSP. Recommended that student takes HESC/HOSP related courses.

**General Electives** <sup>2</sup> 16-23

Total Hours 120

<sup>1</sup> Additional 3 hours credit may be earned if second experience is distinctly different from first internship.

<sup>2</sup> Recommend world language 6 hours.

## Human Nutrition and Hospitality Innovation B.S.H.E.S., Hospitality Innovation Concentration Eight-Semester Degree Program

Students wishing to follow the degree plan in Human Nutrition and Hospitality Innovation should go to the Eight-Semester Degree Policy (p. 73) for university requirements of the program.

First Year	Units		
	Fall	Spring	Summer
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa) (unless exempt)	3		
NUTR 1213 Fundamentals of Nutrition (Sp, Fa)	3		
HOSP 1603 Introduction to Hospitality Management (Sp, Fa)	3		
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (or higher level math) or MATH 1204 College Algebra with Review (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3-4		
Science Core Elective	4		
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa) (unless exempt)			3
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)			3
Fine Arts/Humanities Core Elective			3
AGME 2903 Agricultural and Human Environmental Sciences Applications of Microcomputers (Sp, Su, Fa) or ISYS 1123 Business Application Knowledge - Computer Competency (Sp, Su, Fa)			3
HESC 1501 Issues and Trends in Human Environmental Sciences (Sp, Fa)			1
Science Core Elective			4

Year Total:	16	17	
<b>Second Year</b>			
	<b>Fall</b>	<b>Spring</b>	<b>Units Summer</b>
PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa) or SOCI 2013 General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa)	3		
FDSC 2503 Food Safety and Sanitation (Sp, Fa)	3		
MATH 2053 Finite Mathematics (Sp, Su, Fa)	3		
HOSP 2633 Hotel and Resort Operations Management (Sp, Fa)	3		
General or Hospitality Electives		3-4	
ECON 2143 Basic Economics: Theory and Practice (Sp, Su, Fa)		3	
History or Government Core Elective		3	
HOSP 2603 Purchasing and Cost Control (Sp, Fa)		3	
Year Total:	12	13	

<b>Third Year</b>			
	<b>Fall</b>	<b>Spring</b>	<b>Units Summer</b>
AGEC 2142 Agribusiness Financial Records (Sp, Fa) & AGEC 2141L Agribusiness Financial Records Lab (Sp, Fa)	3		
AGED 3143 Communicating Agriculture to the Public (Sp, Su, Fa)	3		
General or Hospitality Electives	6		
HESC 2413 Family Relations (Sp, Fa)	3		
HOSP 3603 Menu, Layout & Food Preparation (Sp, Fa) & HOSP 3601L Menu, Layout & Food Prep Lab (Sp, Fa)		4	
General or Hospitality Electives		7	
HOSP 3633 Front Office Revenue Management (Sp)		3	
Year Total:	15	14	

<b>Fourth Year</b>			
	<b>Fall</b>	<b>Spring</b>	<b>Units Summer</b>
AGEC 3303 Food and Agricultural Marketing (Sp, Su, Fa)	3		
HOSP 4653 Global Travel and Tourism Management (Sp)	3		
HOSP 3653 Food Systems Management (Fa)	3		
HOSP 4643 Meetings, Events and Convention Management (Fa)	3		
General or Hospitality Electives	3		
General or Hospitality Electives		6	
Fine Arts/Humanities Core Elective		3	

BLAW 2013 The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa)	3		
HOSP 4633 Hospitality Operations and Financial Analysis (Sp, Fa)			3
HOSP 4693 Hospitality Management Internship (Sp, Su, Fa)			3
Year Total:	15	15	3

Total Units in Sequence: 120

### Minor in General Foods and Nutrition (GFNU-M)

<b>Required Courses</b>		12
NUTR 1213	Fundamentals of Nutrition (Sp, Fa)	
NUTR 2112	Principles of Foods (Sp, Fa) & NUTR 2111L and Principles of Foods Laboratory (Sp, Fa)	
NUTR 3203	Human Nutrition (Sp)	
NUTR 4213	Advanced Nutrition (Fa)	
Select two of the following:		6
NUTR 2203	Sports Nutrition (Sp, Fa)	
NUTR 4223	Life Cycle Nutrition (Fa)	
NUTR 4243	Community Nutrition (Sp)	

Total Hours 18

## Fay Jones School of Architecture and Design

### Mission and Objectives

The Fay Jones School of Architecture and Design, founded in 1946 by John G. Williams at the University of Arkansas, houses professional design programs of architecture, landscape architecture and interior design together with liberal studies programs. The architecture and landscape architecture departments offer five-year accredited professional degree programs and four-year pre-professional degrees; the interior design department offers a four-year accredited professional degree, all of which combine studio design education with innovative teaching in history and theory; building and intelligent technologies and urban design and resiliency. A broad range of course offerings equips graduates with the knowledge and critical agility required to meet the challenges of designing for a changing world. Design instruction occurs in studio sequences that provide educational experiences appropriate for students who wish to pursue both traditional and non-traditional forms of professional practice. Fundamental principles and techniques design and design thinking are stressed and all curriculums empower students by developing skill, knowledge, and a deep sense of responsibility to their environment and to the cultures they will serve. The school's curriculum surveys issues and opportunities in built and natural settings, as well as addressing complex social, physical, and cultural relationships that constitute the human-made environment. In summary, the school prepares its students with critical frameworks for professional skills, and applied learning experiences that equip them to assume leadership roles in the profession and in their communities.

### Facilities and Resources

The three academic units of the Fay Jones School — architecture, interior design and landscape architecture — together with its administrative

offices are located in Vol Walker Hall and its state of the art addition, the Steven L. Anderson Design Center. Harmoniously combining traditional and contemporary architecture, our renewed facilities not only offer students in the Fay Jones School extraordinary opportunities for collaboration among its three design disciplines, but also model best practices for new and historic preservation construction, all adhering to high standards of sustainable design. Similarly, the university's location in Northwest Arkansas, affords opportunity to study the impact of urbanization in a traditionally agricultural setting. At the same time, we value making connections with the entire state and our nation, pursuing learning experiences for our students that foster civic engagement and responsibility. So too, the school is aware of the increasing global nature of design practice and offers field trips, guest lectures, learning opportunities in applied design and research, and, especially, a variety of study abroad programs in the University of Arkansas Rome Center as well as our Latin America Program and diverse options across Europe.

## Design Studio

The design studio sequence is the core of each discipline within the school. Studio projects are complemented by topical lectures that inform the design process. These learning experiences develop and nurture the intellectual and creative skills of students and allow them to approach problem solving in a disciplined, logical, and analytical manner.

The amount and complexity of material covered, the fast pace of assignments, and the presentation of work for critical discussion among faculty and other students combine to produce a challenging learning atmosphere.

## Library Resources

The Fine Arts Library, a branch of the University Libraries, serves the school. Collections include traditional print resources on architecture, landscape architecture, interior design and the visual arts (painting, drawing, sculpture, ceramics, printmaking and photography) electronic resources including Art Full Text, Avery Index, Bibliography of History of Art and Grove Dictionary of Art among others. The Fine Arts Library also maintains course reserves for Fay Jones School classes. The library offers full wireless coverage.

The C. Murray Smart Multimedia Center, located in Vol Walker Hall contains an online digital image database with more than 90,000 images relating to architecture, architectural history, interior design, landscape and urban design. This resource, along with an archival collection of approximately 40,000 slides and photographs and 800 video programs, is available to faculty and students of the school. The center also provides assistance to students with digital imaging technology, including the use of scanners and digital cameras.

## Digital Drawing and Fabrication Resources

**Design Shop web page** (<http://designSHOP.uark.edu>)

The school maintains two fabrication labs, the DesignSHOP for use by all students and the DFAB Lab, a research facility located off campus. The DesignSHOP houses traditional and digital fabrication equipment including two three-axis computer numerically controlled (CNC) router, five laser cutters, vacuum-form, and a three-dimensional FDM printer that allow students and faculty to transform digital models into physical 3D components, prototypes and scale models. Students work with wood, fiber board, metals, plastics, cardboard and paper products. They are encouraged to work with both conventional and CNC machines to develop prototypes, casting molds, furniture, models, and other products. The

DFAB Lab houses a 5-axis CNC router and plasma cutter, a three-dimensional plastic printer, digital paper cutter, metal press, vacuum-form, and robotic arm. The labs are staffed during the day and evening hours by students and full-time professional assistants; hours vary by semester.

The school also supports multiple stations for 2D digital scanning and printing. The stations house a selection of flatbed and roll scanners, large-format plotters, and color and B&W laser printers. There is a computer technology specialist and student assistants who run and maintain these 24-7 output stations. Students are charged a minimal per-print fee. The average annual expenditure for students in the professional degree programs is \$150. All ink, toner and several types of paper are provided to give students the opportunity to craft digital and hybrid representations merging hand and digital drawing techniques. The school also operates a 30-seat teaching lab with output devices used for course lectures, short workshops and to allow students access to design software that supports individual work and allows online collaborative projects between architects, landscape architects, interior designers, artists, engineers, mathematicians and fabricators.

## The Materials Shop

The Materials Shop supports construction projects ranging from light fixtures and furniture to three-dimensional models. The facility is staffed by one full-time technician and is available to students and faculty for design, coursework, and research projects. The workshop houses multiple table saws, band-saws, chop saw, scroll saw, drill presses, jointer, planer, lathe, belt sanders, metal break and many hand tools.

The materials laboratory is a learning resource providing access to timeless, innovative, emerging, and sustainable materials and technologies that enables students to grow creatively and to become socially and environmentally responsible professionals. The tangible collection offers students the opportunity to engage a material's composition, physical structure, function, and environmental impact while exploring diverse design applications and assemblies. Searching materials is available through an online database organized by composition, manufacturing process, form, and application.

## Garvan Woodland Gardens

Located on Lake Hamilton in Hot Springs, Arkansas, Garvan Woodland Gardens is an integral unit of the school. The land and endowment were the result of a bequest to the department of landscape architecture in 1985. This 210-acre woodland habitat features a variety of garden settings and unique architectural structures designed and developed by world-renowned specialists in botanical gardens, landscape architecture and architecture. An internship program offers opportunities for summer study and employment.

## University of Arkansas Community Design Center

Since 1995 the University of Arkansas Community Design Center (UACDC) has provided award-winning, innovative planning to communities and organizations throughout Arkansas. A nationally recognized leader in urban design, sustainable development, and education UACDC design solutions advance triple-bottom line thinking: simultaneously solving for economic, ecological, and social criteria. The center's work is multi-disciplinary as it addresses new challenges in affordable housing, context sensitive highway design, low impact development, transit-oriented development, big box urbanism, watershed urbanism, and agricultural urbanism. In the tradition of a teaching office,

students collaborate with the center's professional design staff and allied consultants while authoring their own proposals. The goal is to prepare designers for leadership in "wicked problem solving" that leads to intelligent development of the built environment.

## Degrees Offered

The Fay Jones School of Architecture and Design offers five-year professional programs in architecture and landscape architecture and a four-year professional program in interior design. Each program culminates in a professional degree, the Bachelor of Architecture (B.Arch.), Bachelor of Landscape Architecture (B.L.A.) or Bachelor of Interior Design (B.I.D.).

The Bachelor of Architecture prepares students for registration and licensure to practice architecture. Architects are licensed professionals trained in the art and science of the design and construction of buildings and structures that primarily provide shelter. Additionally, architects may be involved with designing the total built environment—from how a building integrates with its surrounding landscape to architectural or construction details that involve the interior of the building to designing and creating furniture to be used in a specific space. An architect will create the overall aesthetic and look of buildings and structures, but the design of a building involves far more than its appearance. Buildings also must be functional, safe and economical and must suit the specific needs of the people who use them. Most importantly, they must be built with the public's health, safety and welfare in mind.

The Bachelor of Landscape Architecture prepares student practice landscape architecture as a licensed professional. The discipline of landscape architecture balances human requirements with landscape concerns. Landscape architects design, plan, and manage the land through understanding the interrelationships among the spirit of place, local ecology, individuals, and communities. They create outdoor spaces and rebuild ecological systems that meet societal needs, protect or enhance the natural environment, and respond to cultural conditions. Design and planning projects span the breadth of the profession to include urban design and town planning, public parks, land conservation, stormwater management systems, ecological rehabilitation, historic landscape preservation, private gardens, housing developments, institutional and business campuses, and golf courses.

Interior Design elevates the human experience as it operates at the intersection of human aspirations and the constructed environment. Students rigorously investigate contemporary physical, socio-cultural, psychological, aesthetic and sensory forces to craft the complete spatial experience. Interior Design at the Fay Jones School of Architecture and Design educates and prepares its students for a rewarding and successful career in the profession. Students develop strong design and technical skills through experimentation, discovery and invention. Study abroad opportunities; transdisciplinary collaboration; and minors in sustainability and business enrich students' creative expression, deepens knowledge bases and builds critical thinking skills. The program requires practice-based internships and builds connections between students and potential employers. Graduates leave the school prepared to succeed as design professionals in growing global markets.

The Bachelor of Science in Architectural Studies and the Bachelor of Science in Landscape Architectural Studies serve students who are interested in the design disciplines, but not professional practice. The four-year programs are well suited for students who seek careers in allied design disciplines, including historic preservation, environmental law, and history of architecture, as well as for students looking forward to

graduate education in architecture, landscape architecture and the allied disciplines.

## Minors

Students in architecture, landscape architecture and interior design may pursue academic minors in approved degree programs of other colleges on campus, providing they meet the specific requirements for that minor, as well as any of the school's minors in History of Architecture and Design, Planting Design and Planning. An Interior Design minor is available only to students in the Fay Jones School of Architecture and Design.

## Accreditations

The architecture program was founded in 1946 and has been accredited by the National Architectural Accrediting Board (NAAB) since 1958. The landscape architecture program was established in 1975 and has been accredited by the Landscape Architecture Accreditation Board (LAAB) of the American Society of Landscape Architects (ASLA) since 1983. The Interior Design program was established in 1974 and has been accredited by the Council for Interior Design Accreditation (CIDA) since 1993. The school holds memberships in the Association of Collegiate Schools of Architecture (ACSA) and the Council of Educators in Landscape Architecture (CELA) and the Interior Design Educators Council (IDEC), organizations that comprise North American schools of architecture, landscape architecture and interior design.

### Architecture – National Architectural Accrediting Board

In the United States, most state registration boards require a degree from an accredited professional degree program as prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit U.S. professional degree programs in architecture, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture and the Doctor of Architecture. A program may be granted a six-year, three-year, or two-year term of accreditation, depending on the extent of its conformance with established educational standards.

Doctor of Architecture and Master of Architecture degree programs may consist of a pre-professional undergraduate degree and a professional graduate degree that, when earned sequentially, constitute an accredited professional education. However, the pre-professional degree is not, by itself, recognized as an accredited degree.

The University of Arkansas Fay Jones School of Architecture and Design's department of architecture offers the following NAAB-accredited degree program:

- B.Arch. (159 undergraduate credits)

The last accreditation visit for the B.Arch. programs was conducted in February 2014; the date of the next visit will be announced in spring 2022.

The National Architectural Accrediting Board (NAAB) only accredits professional programs offering the Bachelor of Architecture, which requires a minimum of five years of study, and the Master of Architecture degrees. These professional degrees are structured to educate those who aspire to registration and licensure to practice as architects. The curricular requirements for awarding these degrees must include three components — general studies, professional studies, and electives. Together these three components comprise a liberal education in architecture and ensure that graduates will be technically competent, critical thinkers who are

capable of defining multiple career paths within a changing societal context.

No four-year degrees are accredited by NAAB, but the Bachelor of Science in Architectural Studies degree is excellent for those who want a foundation in the field of architecture as preparation for either continued education in a professional degree program or for employment in fields related to architecture.

#### **Landscape Architecture – Landscape Architectural Accreditation Board**

The Landscape Architecture Accreditation Board (LAAB) is the sole agency authorized to accredit U.S. professional degree programs in Landscape Architecture. LAAB recognizes the Bachelor of Landscape Architecture, Bachelor of Science in Landscape Architecture, and Masters of Landscape Architecture. It accredits each program every six years, evaluating degree of conformance with established education standards.

Masters degree programs may consist of a pre-professional undergraduate degree and a professional graduate degree, which, when earned sequentially, comprise an accredited professional education. However, the pre-professional degree is not, by itself, recognized as an accredited degree.

The University of Arkansas Fay Jones School of Architecture and Design's department of landscape architecture offers the following LAAB-accredited degree program:

- B.Larc. (160 undergraduate credits)

The next accreditation visit for the B.Larc program is 2022.

#### **Interior Design – Council for Interior Design Accreditation**

The Bachelor of Interior Design (B.I.D.) degree is accredited by the Council for Interior Design Accreditation (CIDA). CIDA, an independent, nonprofit accrediting organization, is the sole agency authorized to accredit professional degree programs in interior design. To ensure conformance with educational standards, programs must seek re-accreditation every six years. The program is the oldest accredited interior design program in the state of Arkansas.

The University of Arkansas Fay Jones School of Architecture and Design's department of Interior Design offers the following CIDA-accredited degree program:

- B.I.D. (121 undergraduate credits)

The last accreditation visit for the Interior Design program was conducted in April 2012; the next site visit is spring 2018.

## **Off-Campus Study Requirement**

Each student in the professional program in architecture, landscape architecture and interior design is required to complete an approved off-campus study experience focusing upon complex urban relationships, and fostering cultural diversity. Approved programs in the Fay Jones School vary. They range from a semester in Rome to five- to ten-week programs in Europe or Latin America.

A special international programs fee supports the school's international programs. These fees are assessed to all students participating in the professional (five-year) degrees in architecture, landscape architecture and interior design designated in the "Fees and Cost Estimates" section of this catalog. The international program and any travel fees offsets

the costs of maintaining off-campus programs that are not a part of the school's university-funded budget, as well as enhancing student-centered activities. Students are assessed the international fee each semester up until the semester they study abroad. At that time, they will be assessed for any remaining semesters plus any additional program costs not covered by the international study fees. The fee is assessed for each study abroad program and is not regulated by the catalog year of the students' first enrollment in the Fay Jones School of Architecture and Design. All travel fees are non-refundable under any circumstances including withdrawal from the respective professional programs. For further information, see notes on related program fees under "Fees and Cost Estimates" for the university.

## **School Academic Regulations Plus/Minus Grading System**

The Fay Jones School of Architecture and Design utilizes a plus/minus grading system that assigns numerical values to 12 different grades. These values are used for architecture, interior design and landscape architecture courses when grade-point averages are calculated. The 12-step grading system with assigned values is as follows:

<b>Grade</b>	<b>Value</b>
A	4.00
A-	3.67
B+	3.33
B	3.00
B-	2.67
C+	2.33
C	2.00
C-	1.67
D+	1.33
D	1.00
D-	0.67
F	0.00

## **School Scholarships**

More than 90 awards and scholarships, including both merit and need-based scholarships, are available to students in the Fay Jones School of Architecture and Design. Most are awarded annually on the basis of recommendations made by the scholarship committee of the school. Only work accomplished since entering the school will be considered in determining merit awards based on grade-point averages.

Applications for scholarships are available for prospective and currently enrolled students at [scholarships.uark.edu](http://scholarships.uark.edu).

## **Student Organizations**

### **American Institute of Architecture Students**

The American Institute of Architecture Students (AIAS) is a national organization whose purpose is "to organize architecture students and combine their efforts to advance the science and art of architecture, to promote excellence in architectural education, training and practice, and to foster an appreciation of architecture and related disciplines among all persons." All students in the school's architecture program are eligible for membership.

## American Society of Landscape Architects, Student Chapter

The purpose of the student chapter of the American Society of Landscape Architects is to bring together the landscape architecture students to combine their interests and efforts, to extend their knowledge of the profession of landscape architecture, and to help advance the profession while preparing for a professional career. All students in the school's landscape architecture program are eligible for membership.

## American Society of Interior Designers Student Chapter

The American Society of Interior Design Student Chapter (ASID) is dedicated to representing the entire profession and encouraging the highest possible standards for the practice of interior design. Their purpose is to encourage interaction with professionals in interior design and allied professions and to develop leadership qualities. All students in the school's interior design program are eligible for membership.

## National Organization of Minority Architects

The National Organization of Minority Architects (NOMA) mission is to champion diversity within the design professions by promoting the excellence, community engagement, and professional development of its members.

## Tau Sigma Delta Honor Society

The Alpha Eta Chapter of Tau Sigma Delta is the only national collegiate honor society recognized in the fields of architecture, landscape architecture, interior design and allied arts. All students in the school are eligible for membership.

Elections to membership are made by the existing membership, subject to approval by the faculty, from the top 20 percent of each class of fourth-year and fifth-year students maintaining a minimum 3.00 cumulative grade-point average. In addition, leadership, character, and promise of professional merit are considered in making selections.

## Sigma Lambda Alpha

Sigma Lambda Alpha, founded and chartered by the Council of Educators in Landscape Architecture (CELA), is an international honor society that encourages, recognizes and rewards academic excellence in preparation for the profession of landscape architecture. Any landscape architecture junior or senior with an average of 3.2 or higher is eligible for membership.

## Ownership of Work

All original work submitted for credit, including design studio projects, becomes the property of the Fay Jones School of Architecture and Design. Students are required to maintain portfolios documenting all academic and design studio work. Digital copies (compact discs) of all work completed in a studio must be submitted to the studio year coordinator in order to receive a grade for the studio.

## School Computer Policy

[archlabs.uark.edu](http://archlabs.uark.edu)

All students enrolled in the school are required to purchase, for their first year, a personal computer matching or exceeding specifications issued by school. The specifications are the same for all departments. All students will need their computers in the fall semester of the first year. The specifications, which are updated annually, are available

through the advising center or on the school's computer tip page (<http://architecture.uark.edu/172.php>).

Recommendations for educationally priced computers are available on the UA Computer Store website (<http://uofastore.com/computer/tech-guide>). Looking under the Fay Jones School.

A substantial amount of software may be required depending on specific course requirements, most of which is free for students to download at school's Technical Support page (<http://fayjones.uark.edu/people/current-students/technical-support.php>).

Other software is available educational discount prices through the UA Computer Store (<https://shop.uofastore.com/c-297-software.aspx>).

### Office of the Dean of the School

Vol Walker Hall, Room 120  
479-575-4945

### Dean

Peter MacKeith

### Associate Dean

Ethel Goodstein-Murphree

### Advising Center

479-575-2399

**World Wide Web:** [architecture.uark.edu](http://architecture.uark.edu)

**E-mail:** [fjsoa@uark.edu](mailto:fjsoa@uark.edu)

## School Admission Requirements

Each program within the Fay Jones School of Architecture and Design has its own requirements for admission to their general and professional programs. The page below provides admission requirements for:

- The Department of Architecture
- The Department Interior Design
- The Department of Landscape Architecture

## Department of Architecture Admissions

The department of architecture maintains two distinct tracks of study for entering freshmen to accommodate all students interested in pursuing a degree in architecture. The two tracks of study are designed to foster learning and to build strong foundations for entering students with different skill levels and high school backgrounds. Students accepted to the University of Arkansas with the intention to participate in the B.Arch. or B.S. programs in the department of architecture will be classified as fall/spring studio students or summer/summer studio students and assigned to either the fall/spring studio track or summer/summer studio track based upon department admissions policies described below.

### Fall/Spring Studio

Students must meet all of the following requirements:

- 25 ACT or better
- 3.5 GPA in high school
- College preparatory curriculum to include physics and an upper level math (Pre-Calculus or higher)

Space in the studio is limited to 120 students with priority given to first year students who are admitted to the University of Arkansas and indicate

architecture or architectural studies as their intended degree program by Nov. 15.

Students are reviewed at the end of the fall semester and may continue in the program if they meet the following criteria:

- “C” or better in ARCH 1015, Architectural Design I
- “C” or better in PHYS 1044, Physics for Architects I or an approved equivalent
- “C” or better in ARCH 1212, Design Thinking I: Foundations in Technology
- Present a 2.0 GPA

Students who do not meet those criteria will receive a letter and be advised accordingly.

### Summer/Summer Studio

Summer studio students meet the University of Arkansas minimum requirements for admission but do not meet the above noted department criteria for the fall/spring studio. These students can enroll in ARCH 1015, Architectural Design I in the summer if they meet the following criteria:

- “C” or better in PHYS 1044, Physics for Architects I or an approved equivalent
- Present a 2.0 GPA

Students who do not meet these criteria will be delayed until they satisfy the admissions criteria for the Department of Architecture. Students will be reviewed at the end of the first summer session and will not be allowed to continue in the program if they do not meet the following criteria:

- “C” or better in ARCH 1015, Architectural Design I
- “C” or better in ARCH 1212, Design Thinking I: Foundations in Technology
- Maintain a 2.0 GPA

### Architecture Department Transfer Students

Transfer students who are admitted to the Fay Jones School of Architecture start the design studio sequence in the summer and must meet the following requirements:

- Completion of an approved general physics course and an approved mathematics course.
- To enter Design I in the summer, students must successfully pass Physics for Architects I (or another approved upper level physics course) with a minimum of C or better, complete an approved math course and present a 2.0 GPA overall.
- Students admitted to the university with a completed two-year associate of arts or associate of science degree from an Arkansas state-supported two-year or four-year college or university, as stated in ACT 182, will have general education (core) requirements waived. All students must complete any lower division discipline specific courses required for the major, as well as all courses required to comply with the conditions of accreditation.

Lack of knowledge or misinterpretation of policies and/or regulations on the part of individual students will not be considered a valid reason for failure to fulfill requirements.

**Transferring from Accredited Schools of Architecture:** Students transferring from an accredited professional program in architecture must have their architecture courses reviewed for acceptance and for

determination of studio placement by submitting materials for review. Please contact the school’s advising center for a specific list of required materials.

NOTE: All students must complete or receive transfer credit for either PHYS 1044 Physics for Architects I or PHYS 2013 and PHYS 2011L College Physics I, MATH 1213 Plane Trigonometry, MATH 2033 Mathematical Thought, MATH 2043 Survey of Calculus or MATH 2053 Finite Mathematics and all other first year university core curriculum courses prior to entry into ARCH 2016 Architectural Design III and its co-requisites in architectural structures and history.

Ultimate responsibility for completion of entrance requirements rests with each student. For questions concerning admissions, please contact the school’s advising center for additional information.

### Admission to the Professional Program

The department of architecture offers students the opportunity to prepare for architectural practice or related endeavors. With this opportunity comes a responsibility for demonstrating a commitment to personal growth and success in the professional program.

Students are admitted to the first year of the architecture curriculum based on the above described by the university and the school. Every semester, students’ grades in all architecture courses, especially the design studio, are evaluated to assess their progress and performance.

Upon completion of the third year of the five-year architecture curriculum, including completion of the 35 semester-credit hour university’s state minimum (general education) core required, students will be evaluated for admission to the professional program. **Admission to the Professional Degree Program in the Department of Architecture requires a minimum 2.00 grade-point average in the University Core and each of the sub-disciplines of Architecture: History/Theory, Technology and Design.**

Students admitted to the professional program will continue in the established studio curriculum sequence and are to complete the final two years of design studio at the school. In addition to completing the design studio sequence, students are encouraged to take maximum advantage of the opportunities that professional and free electives provide for pre-professional development, cultivation of specialization in and related to the profession, and/or preparation for graduate education.

## Interior Design Program Admissions

Students are admitted to the first year of the interior design curriculum based on criteria established by the university and by the program. They are evaluated each semester by grades in lecture courses and by grades for performance and progress in the design studio sequence.

### Admission to the Professional Program for Interior Design

The interior design program offers prospective students the opportunity to prepare for professional practice or related endeavors. With this opportunity comes a responsibility for demonstrating a commitment to personal growth and success in the professional program.

At the completion of the first year of the interior design curriculum, students will be evaluated for admission into the professional program on the basis of academic performance in the university core and the required interior design and architecture curriculum. Admission is based on available desks and requires a majority vote of a departmental admissions committee. Students admitted to the professional program will continue

in the established studio curriculum sequence and are to complete the final three years of design studio at the school. Students with less than a cumulative 2.5 GPA in IDES and ARCH courses will not be admitted to the professional program. Students who are not admitted are encouraged to consider alternative programs in the school and the university.

Students are encouraged to maximize opportunities that professional and free electives provide for pre-professional development, specialization in areas related to the profession, and/or preparation for graduate education.

## Department of Landscape Architecture Admissions

All students (including freshmen, international, and transfer students) admitted to the University of Arkansas are eligible for participation in the landscape architecture program in the school. Space in the studio is limited with priority given to first year students who are admitted and indicate landscape architecture or landscape architectural studies on their admissions application by November 15th. Students who require developmental work because of low ACT or SAT scores or university-administered math placement examinations or who require courses to remove deficiencies may not register for courses carrying LARC departmental designations. Upon completion of required developmental work and maintaining a grade-point average of 2.00 or more on at least 12 credit hours, students may enroll in landscape architecture (LARC) courses.

### Admission to the Professional Program in Landscape Architecture

The department of landscape architecture offers a professional education grounded in liberal arts studies, which prepares students for landscape architecture practice in the private, public, and not-for-profit sectors. Successful completion of the program requires commitment to personal growth and excellence.

Students are admitted to the first year of the landscape architecture program based upon the established criteria by the University of Arkansas. Academic and professional performance is evaluated by grades in the course work, design studios, and construction labs. After two years in the program, students submit a portfolio of work at the end of the spring semester for application to continue in the professional program. Applicants who have a grade-point average below a 2.5 will not be allowed to continue in the program. Contact the department head for specific portfolio submission requirements and schedule of deadlines. All candidates will be notified of their acceptance or rejection in writing, normally by the first of August.

Students will be evaluated on general academic performance and in the landscape architecture curriculum as well as professional conduct. All department faculty serve on the admissions committee. Any appeal to the committee's decision may be made by submitting a letter to the department head one week before the first week of the subsequent fall semester. The appeal will be presented to the entire faculty for consideration and will require the candidate to present their case in person.

Students who fail to gain admission to the Bachelor of Landscape Architecture degree program will be referred to the department head and the school's academic adviser for appeal procedures and alternative degree programs in the school and the university.

## Honors

### Fay Jones School of Architecture and Design Honors Program

The Honors Program of the Fay Jones School of Architecture and Design is proud to be one of the six individual honors programs partnered with the University of Arkansas Honors College. The Fay Jones School Honors Program is rooted in the best traditions of design education: responsibility and service to the societies and cultures to which we are inextricably connected, and the nurturing of the individual curiosity and capabilities of our students. Honors requirements are the same in all departments (Architecture, Interior Design and Landscape Architecture) and can be found below.

The Fay Jones School of Architecture and Design Honors Program provides opportunities for students of superior academic and creative ability to enhance and enrich their professional and liberal education. Students in the Architecture Honors Program are eligible to graduate *cum laude*, *magna cum laude*, and *summa cum laude*. All other students who attain a cumulative GPA of 3.5 or higher will be eligible to graduate with distinction, a classification separate from the *cum laude* awards.

The school's Honors Program requires 18 credits of honors coursework.

### Admission to the Fay Jones School Honors Program

The Honors College will automatically enroll freshmen who are accepted as honors students before summer orientation in the Fay Jones School Honors Program. At summer orientation, these honors students will fill out the Fay Jones School Honors Program enrollment form.

Freshmen who were not admitted by the Honors College before orientation but who come to orientation with the qualifying 28 composite ACT score and 3.5 high school GPA will also fill out the Fay Jones School Honors Program Enrollment form at orientation. Students who do not present both 28 composite ACT and 3.5 high school GPA, but who subsequently earn and maintain a 3.5 GPA in their coursework at the U. of A., will be invited to enroll in the Fay Jones Honors Program as soon as they attain a 3.5 GPA, provided it is still possible for them to complete all of the Honors program requirements at the time of their enrollment.

From the second semester of the third year onward, the Fay Jones School Honors Scholars are required to maintain a minimum cumulative GPA of 3.33 to remain in the program.

Transfer students may be invited to join the Fay Jones School Honors Program if they maintain a cumulative GPA of 3.5 or higher in courses completed at the University of Arkansas by the end of the first semester of their third year of study, and a 3.33 GPA thereafter.

Every semester, the school's advising center will apprise the Fay Jones School Honors Program Committee of students who have achieved this level of excellence and are eligible to join the Fay Jones School Honors Program. Invitations are extended to students by the end of the semester in which the candidacy is advanced.

### Confirmation of Intent to Complete the Fay Jones School Honors Program

At the end of the first semester of the third year, students will sign a form, confirming their intention to complete the remaining requirements for their honors degree. Students found not to have successfully completed the honors core course(s) needed to satisfy their Honors degree requirements



(i.e., sufficient credits in University Core and/or Professional Core Honors courses) will be dismissed from the honors program at this time.

### Dismissal from the Fay Jones School Honors Program

The Fay Jones School Honors Program students who fail to maintain a 3.5 or 3.33 cumulative GPA, depending on their year level, will receive a one-semester probation period prior to dismissal from the program.

### Honors Independent Study Policy

Honors students may take as many regular or honors independent study credits as they deem desirable, but only one three-credit honors independent study course may be substituted for an Honors Professional Elective course. Furthermore, the substitution will be permitted only if all of the following conditions are satisfied:

- That the honors independent study course not be taken concurrently with capstone credit studio.
- That the honors independent study course not be taught by the student's capstone director.
- That honors independent study course be substituted for no more than three credits of a student's required professional electives credits.

It is recommended that students considering this option seek special advising from their faculty mentor. As it is helpful for students to know what is expected of them, the work of the honors independent study (research paper, models, prototypes, etc.) should be determined, and agreed upon, by the professor and student before the student registers for the credits. The school's advising center will register a student for a Honors Special Projects course only upon request of a syllabus or prospectus for the independent study from the student.

### Honors Capstone

All honors students will pursue a capstone project during the final year of their undergraduate program. Honors students will invest three credit hours in the development of a capstone project that will articulate research topics identified in the FJAD 3153H Honors Methods of Design Inquiry course taken spring semester in a students' third year. Additionally, honors students are required to enroll in three credit hours of upper-level elective course-work related to the topic of the honors capstone. Guidelines for topic selection and preparation of the honors thesis/research project are available from the Honors Committee.

The honors capstone is a student-directed project supervised by a capstone director with expertise in the capstone topic. The capstone director, who must be a faculty member in the Fay Jones School chairs a capstone committee to be comprised of two other members, typically, a departmental faculty member and a non-departmental faculty member who brings additional fields of knowledge to the project. In rare cases when the capstone director, in consultation with the School's Honors Committee and the student, determines that a non-departmental faculty member with expertise appropriate to the capstone in question cannot be identified on campus, an extra-disciplinary member from within the Fay Jones School (e.g., faculty in architectural history, technology, or other allied field) may fill the position of the non-departmental member. Any such exceptions to the standard membership of a capstone committee should be infrequent. The point of including non-departmental participation is to help ensure that a student's research is understandable and valid to an informed community outside of the disciplines of architecture, interior design or landscape architecture. Additional faculty, both departmental or non-departmental, as well as non-academic experts,

may participate in any honors capstone as non-committee members, if capstone director welcomes their involvement.

Students will complete and present a written prospectus for the Honors Capstone no later than the Friday before summer break in their third year of study. The prospectus will be a product of the FJAD 3153H Honors Methods in Design Inquiry course.

Students shall meet a schedule of interim requirements established by the capstone committee in consultation with the School's Honors Committee.

### Fay Jones School of Architecture and Design Honors Program Committee

The chair of the Fay Jones School's Honors Program and faculty members representing the allied fields of studio design, history/theory and building technologies comprise the School's Honors Program Committee. The committee serves to:

- Review courses for honors designation.
- Participate as ambassadors for the Department and its Honors Program.
- Participate in recruiting efforts of the Fay Jones School of Architecture and Design and the Honors College.
- Review Honors Capstone Prospectuses (developed in the FJAD 3153H Honors Methods in Design Inquire course) in the fall semester of a student's fourth year of study.

The committee shall meet at least once each semester, and at the discretion of the dean, associate dean and the chair of the School's Honors Program.

## Requirements for Fay Jones School of Architecture and Design Honors Program Scholars

Completion of 18 hours of honors designated courses, to include a minimum of:

Honors elective (any Honors course at the university)	3
Honors Professional Core (any Honors professional core in the Fay Jones School)	3
Honors Professional Electives or upper-level (3000+) university honors courses	6
FJAD 3153H Honors Methods of Design Inquiry (Sp)	3
FJAD 5143H Honors Capstone (Sp, Fa)	3
<b>Total Hours</b>	<b>18</b>

## Architectural Studies (ARCH) Faculty

**Marlon Blackwell**, Distinguished Professor

**David Buege**, Professor

**Emilio Del Gesso**, Assistant Professor

**Lynn Fitzpatrick**, Assistant Professor

**Ethel S. Goodstein-Murphree**, Professor

**Greg Herman**, Associate Professor

**Frank R. Jacobus**, Associate Professor

**Stephen D. Luoni**, Professor

**Peter MacKeith**, Professor

**Marc A. Manack**, Assistant Professor

**Tahar Messadi**, Associate Professor

**Winifred E. Newman**, Professor  
**Chuck Rotolo**, Assistant Professor  
**Russell D. Rudzinski**, Assistant Professor  
**Kim Sexton**, Associate Professor  
**Graham F. Shannon**, Professor  
**Laura Terry**, Associate Professor  
**Alison Turner**, Assistant Professor  
**Daive Vitale**, Professor

Winifred E. Newman  
 Department Head  
 120 Vol Walker Hall  
 479-575-4705

## Bachelor of Science in Architectural Studies

The Bachelor of Science in Architectural Studies incorporates course work from the school with liberal studies for students with interests that fall outside the parameters of the accredited professional degree program. The architectural studies program provides opportunities for students who wish to prepare for graduate study in an accredited architecture program or in an allied discipline, such as architectural history, historic preservation, urban planning, or construction management, as well as serving students who seek opportunities in related fields that may not require the five-year accredited degree.

### Requirements for a Bachelor of Science Degree in Architectural Studies:

1. Completion of the following 31-hour architectural studies program:

Architectural Design		
ARCH 1015	Fundamental Design Skills (Su, Fa)	5
ARCH 1025	Fundamental Design Methodology (Sp, Su)	5
Architectural Technology		
ARCH 1212	Design Thinking I: Foundations in Technology (Su, Fa)	2
ARCH 2132	Environmental Technology I (Fa)	2
History and Theory of Architecture		
ARCH 1013	Diversity and Design (Su)	3
ARCH 1222	Design Thinking II: Foundations in History (Sp, Su)	2
ARCH 2233	History of Architecture I (Fa)	3
ARCH 2243	History of Architecture II (Sp)	3
ARCH 4433	History of Architecture III (Fa)	3
ARCH 4523	Architectural Theory (Sp)	3
(Students interested in Landscape Architecture may substitute LARC 3413 for ARCH 2233 or ARCH 2243.)		
Total Hours		31

2. Completion of the following 35-hour general education program:

English Composition		
ENGL 1013	Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3
ENGL 1023	Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)	3
American History or Government		
Select one of the following:		3

HIST 2003	History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)	
HIST 2013	History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)	
PLSC 2003	American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)	

Mathematics		
Select one of the following:		
MATH 1213	Plane Trigonometry (ACTS Equivalency = MATH 1203) (Sp, Su, Fa)	3
MATH 2033	Mathematical Thought (Sp, Su, Fa)	
MATH 2043	Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)	
MATH 2053	Finite Mathematics (Sp, Su, Fa)	

Laboratory Science		
PHYS 1044	Physics for Architects I (Fa)	4
PHYS 1054	Physics for Architects II (Sp)	4

Fine Arts/Humanities		
One course must be elected from the fine arts core; one course from the humanities core.		6

Social Science		
At least three hours should be taken in anthropology, economics, psychology, or sociology; and with not more than two courses taken from any one department to fulfill this requirement. (See University Core Requirements)		9

Total Hours		35
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3. Completion of 45 hours of electives as follows:

Professional Concentration Electives		
Concentration tracks can include: M.Arch. preparation; historic preservation; environmental technologies and sustainability; urban and regional planning; a recognized minor in an allied discipline; and other similar programs of study, subject to approval; including at least nine hours of upper-level courses in FJSOA.		24

Upper Division Electives outside of FJSOA		9
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Interdisciplinary Core		
Nine hours to include at least one course in IDES and one course in LARC		9

Total Hours		42
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4. Free Electives

5. A minimum of 120 hours with a 2.00 cumulative grade-point average at this institution both in all work attempted and in course work completed in the Fay Jones School of Architecture.
6. Presentation of at least 40 semester hours in courses numbered 3000 or above or courses in the Fay Jones School of Architecture (or allied discipline) numbered 2000 with specific course prerequisites.
7. University Perspectives (UNIV 1011) does not count towards degree credit.

Architectural Studies degree candidates may pursue an academic minor. The minor must be in a field other than the major area, and students must notify the department of their intention to minor. An academic minor ordinarily consists of 15-18 hours. Although students in architectural studies may choose from any recognized minor offered by the university, they are encouraged to consider the following fields:

- African-American Studies
- Anthropology
- Art History
- Business Administration
- Classical Studies
- Communication
- Computer Sciences
- Economics
- English
- Environmental Studies
- European Studies
- Gender Studies
- Geography
- History
- History of Architecture and Design
- Historic Preservation
- Interior Design
- Latin-American Studies
- Philosophy
- Planning
- Planting Design
- Psychology
- Political Science
- Sociology
- Sustainability
- Theatre

ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3
PHYS 1044 Physics for Architects I (Fa)	4
UNIV 1001 University Perspectives (Sp, Su, Fa)	0
Students are reviewed at the end of the fall semester and may continue the program if they meet the following criteria: "C" or better in ARCH 1015, Architectural Design I; "C" or better in PHYS 1044, Physics for Architects I or an approved equivalent; "C" or better in ARCH 1212, Design Thinking I: Foundations in Technology; Maintain a 2.0 GPA. Students who do not meet these criteria will receive a letter and be advised accordingly.	
ARCH 1025 Fundamental Design Methodology (Sp, Su)	5
ARCH 1222 Design Thinking II: Foundations in History (Sp, Su)	2
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)	3
Select one of the following:	3
MATH 1213 Plane Trigonometry (ACTS Equivalency = MATH 1203) (Sp, Su, Fa)	
MATH 2033 Mathematical Thought (Sp, Su, Fa)	
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)	
MATH 2053 Finite Mathematics (Sp, Su, Fa)	
PHYS 1054 Physics for Architects II (Sp)	4
Year Total:	14      17

Although foreign study is not required of candidates for the four-year degree, students in the architectural studies curriculum are encouraged to participate in the school's off-campus study programs in Rome and Latin/Central America.

To take maximum advantage of the opportunities the four-year degree offers for pre-professional development (cultivation of specialization in and related to the field, and/or preparation for graduate study) each candidate for the Architectural Studies degree will work with a faculty adviser to develop a program of study emphasizing a student's special interests.

A sample curriculum for the Bachelor of Science in Architectural Studies degree can also be obtained from the school's advising center.

## Architectural Studies B.S. Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program. During the first year, students who have been admitted to the fall-spring design studio and students who have been to the summer-summer design studio follow different schedules, both of which are listed below, with the fall-spring studio first and then the summer-summer studio. The second, third and fourth years are identical for both scenarios.

### Fall-Spring Design Studio

	Units	
	Fall	Spring
ARCH 1015 Fundamental Design Skills (Su, Fa)	5	
ARCH 1212 Design Thinking I: Foundations in Technology (Su, Fa)	2	

	Units	
	Fall	Spring
Second Year		
Prior to Second Year		
Prior to Second Year PHYS 1044, PHYS 1054 (or an approved alternate laboratory science in the University Core) and MATH 1213, MATH 2033, MATH 2043 or MATH 2053 must be completed before students can begin second-year courses in Architecture. Transfers students and change-of-majors seeking exceptions to the eight-semester degree plan will be reviewed on an individual basis.		
ARCH 2132 Environmental Technology I (Fa)		2
ARCH 1013 Diversity and Design (Su)		3
Social Science Core		3
ARCH 2233 History of Architecture I (Fa)		3
Select one of the following:		3
HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)		
PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)		
HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)		
Interdisciplinary Core Requirement		3
ARCH 2243 History of Architecture II (Sp)		3
Social Science Core		3

Interdisciplinary Core Requirement	3
Free Elective	3
Fine Arts or Humanities Core	3
Year Total:	17 15

Third Year	Units	
	Fall	Spring
ARCH 4433 History of Architecture III (Fa)	3	
Social Science Core	3	
Interdisciplinary Core Requirement	3	
Concentration or Minor Elective	3	
Upper-level Arts and Sciences 3000-plus Course Requirement	3	
Fine Arts or Humanities Core		3
ARCH 4523 Architectural Theory (Sp)		3
Concentration or Minor Elective		3
Upper-level Arts and Sciences 3000-plus Course Requirement		3
Year Total:	15	12

Fourth Year	Units	
	Fall	Spring
Free Electives	6	
Concentration or Minor Electives	9	
Free Elective		3
Upper-level Arts and Sciences Elective		3
Concentration or Minor Electives		9
Year Total:	15	15

Total Units in Sequence: 120

### Summer-Summer Design Studio

First Year	Units		
	Fall	Spring	Summer
Select one of the following:	3		
MATH 1213 Plane Trigonometry (ACTS Equivalency = MATH 1203) (Sp, Su, Fa)			
MATH 2033 Mathematical Thought (Sp, Su, Fa)			
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)			
MATH 2053 Finite Mathematics (Sp, Su, Fa)			
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3		
Select one of the following:	3		
HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)			

HIST 2003 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)			
PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)			
PHYS 1044 Physics for Architects I (Fa)	4		
Fine Arts or Humanities Core Requirement		3	
UNIV 1001 University Perspectives (Sp, Su, Fa)		0	
These students may continue into ARCH 1015 Architectural Design I in the summer if they meet the following criteria: "C" or better in PHYS 1044 Physics for Architects I or an approved equivalent; Maintain a 2.0 GPA. Students who do not meet these criteria will be delayed until they satisfy the admissions criteria for the Department of Architecture. Students will be reviewed at the end of the first summer session and will not be allowed to continue in the program if they do not meet the following criteria: "C" or better in ARCH 1015 Architectural Design I; "C" or better in ARCH 1212 Design Thinking I: Foundations in Technology; Maintain a 2.0 GPA.			
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)			3
Social Science Core			3
PHYS 1054 Physics for Architects II (Sp) (strongly recommended)			4
Fine Arts or Humanities Core (whichever is still needed)			3
ARCH 1015 Fundamental Design Skills (Su, Fa)			5
ARCH 1212 Design Thinking I: Foundations in Technology (Su, Fa)			2
ARCH 1025 Fundamental Design Methodology (Sp, Su)			5
ARCH 1222 Design Thinking II: Foundations in History (Sp, Su)			2
Year Total:	16	13	14

Second Year	Units		
	Fall	Spring	Summer
Prior to Second Year			

PHYS 1044, PHYS 1054 (or an approved alternate laboratory science in the University Core) and MATH 1213, MATH 2033, MATH 2043 or MATH 2053 must be completed before students can begin second-year courses in Architecture. Transfers students and change-of-majors seeking exceptions to the eight-semester degree plan will be reviewed on an individual basis.

ARCH 2132 Environmental Technology I (Fa)	2	
ARCH 1013 Diversity and Design (Su)	3	
Social Science Core	3	
ARCH 2233 History of Architecture I (Fa)	3	
Select one of the following (if still needed):	0-3	
HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)		
PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)		
HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)		
Interdisciplinary Core Requirement	3	
ARCH 2243 History of Architecture II (Sp)		3
Social Science Core		3
Interdisciplinary Core Requirement		3
Free Elective		3
Fine Arts or Humanities Core (if still needed)		3
Year Total:	14	12

Third Year	Units		
	Fall	Spring	Summer
ARCH 4433 History of Architecture III (Fa)	3		
Social Science Core (if still needed)	0-3		
Interdisciplinary Core Requirement	3		
Concentration or Minor Elective	3		
Upper-level Arts and Sciences 3000-plus Course Requirement	3		
Fine Arts or Humanities Core		3	
ARCH 4523 Architectural Theory (Sp)		3	
Concentration or Minor Elective		3	
Upper-level Arts and Sciences 3000-plus Course Requirement		3	
Year Total:	12	12	

Fourth Year	Units		
	Fall	Spring	Summer
Free Electives	6		
Concentration or Minor Electives	9		
Free Elective (if still needed)		0-3	
Upper-level Arts and Sciences Elective		3	
Concentration or Minor Electives		9	
Year Total:	15	12	

Total Units in Sequence: 120

Note: These students may continue into ARCH 1015 Architectural Design I in the summer if they meet the following criteria: "C" or better in PHYS 1044 Physics for Architects I or an approved equivalent; Maintain a 2.0 GPA. Students who do not meet these criteria will be delayed until they satisfy the admissions criteria for the Department of Architecture. Students will be reviewed at the end of the first summer session and will not be allowed to continue in the program if they do not meet the following criteria: "C" or better in ARCH 1015 Architectural Design I; "C" or better in ARCH 1212 Design Thinking I: Foundations in Technology; Maintain a 2.0 GPA.

## Architecture (ARCH) Faculty

**Marlon Blackwell**, Distinguished Professor

**David Buege**, Professor

**Emilio Del Gesso**, Assistant Professor

**Lynn Fitzpatrick**, Assistant Professor

**Ethel S. Goodstein-Murphree**, Professor

**Greg Herman**, Associate Professor

**Frank R. Jacobus**, Associate Professor

**Stephen D. Luoni**, Professor

**Peter MacKeith**, Professor

**Marc A. Manack**, Assistant Professor

**Tahar Messadi**, Associate Professor

**Winifred E. Newman**, Professor

**Chuck Rotolo**, Assistant Professor

**Russell D. Rudzinski**, Assistant Professor

**Kim Sexton**, Associate Professor

**Graham F. Shannon**, Professor

**Laura Terry**, Associate Professor

**Alison Turner**, Assistant Professor

**Davide Vitale**, Professor

Winifred E. Newman

Department Head

120 Vol Walker Hall

479-575-4705

## Academic Policies

In addition to the requirements of the university, the following academic policies are applicable to all students in the Department of Architecture.

1. Any student receiving a grade of "D (+/-)" in a pre-professional program studio course is subject to a comprehensive review of his/her semester's work by the Design Review Committee. The committee can require the student to retake the studio, prior to advancing to the next studio in sequence, in order to demonstrate competence by achieving a grade

of “C” (2.00) or better. A student receiving an “F” in any required design studio must repeat that studio before progressing.

- Each student’s progress through the Design Studio sequence is monitored and governed by the faculty and subject to a design review process.
- Admission to the Professional Degree Program in the Department of Architecture requires a minimum 2.00 grade-point average in the University Core and each of the sub-disciplines of Architectural History/Theory, Technology, and Design.
- Enrollment in any 4<sup>th</sup> year design studio, including comprehensive design studio (ARCH 4016 or ARCH 4026), the Rome Center Design Studio (ARCH 4116), and the Latin American summer studio (ARCH 4126) is contingent upon admission to the professional program in architecture as described above.
- Successful completion of the upper level studios of the professional degree program (ARCH 4016, ARCH 4026, ARCH 4116, ARCH 4126, ARCH 5016, and ARCH 5026) requires demonstration of competence as evidenced by achieving a grade of “C” (2.00) or better in those courses. Failure to achieve this minimum standard will require retaking the studio.
- Any student receiving an “I” in a design studio must complete all work necessary to receive a grade in that studio prior to the first day of the next studio in the student’s prescribed sequence. Students carrying a grade of “I” will not be permitted to enroll in subsequent studios.
- Prior to graduation, a student must present a 2.00 cumulative grade-point average in all work at this institution.

## Design Review (Grade Appeal) Procedure

### The Design Review Process

Design Review is a process initiated by a faculty member, the Department Head or a student in order that (1) a faculty member may review a student’s design work within a studio course, or (2) a student may appeal grades and/or seek resolution of conflicts with studio faculty in which it is believed that questions of fairness and equity have been raised by the application of the published grading policy of the faculty member. Faculty reviews are predicated upon, but are not limited to, the review of student work that has received a “D” grade or lower.

The Department Head will appoint a Design Review (Appeals) Committee at the beginning of each academic year. The Committee shall be composed of three (3) members of the permanent faculty. Additional or alternate members of the Committee may be appointed at the discretion of the Department Head or the Associate Dean.

Grade appeals initiated by students will occur during the week prior to the start of classes in the subsequent semester. Grade appeals may be filed through petition to the Office of the Associate Dean as soon as the student receives his or her final grade, but no later than the first day of the subsequent semester, (Monday of the week prior to the start of classes). In instances when the appeal concerns a change of an incomplete grade, petition for review should be made as soon as possible after the award of the final grade, and the review will be scheduled at the discretion of the Associate Dean.

### Protocol for the Design Review (Appeal) Process

- Students are encouraged to meet with the faculty member(s) who has awarded the contested grade prior to filing a grade appeal. The student may request that his/her faculty advisor, a member of the professional advising staff, or the Associate Dean facilitate this meeting.
- When a Design Review (Appeal) has been scheduled, the student shall exhibit, at the place and time specified by the Associate Dean’s office, ALL work assigned and attempted for the studio in the semester under review. Faculty are required to provide the Design Committee with the course syllabus, grading policy, semester assignments, mid-term course assessment, and a written evaluation (a one-page rationale) of the full semester’s work at least 48-hours in advance of the Design Review.
- The Design Review (Appeal) will consist of separate and independent meetings of the Design Review (Appeal) Committee with the student and the faculty member(s). Following these meetings, the Committee will convene to evaluate the merits of the review (appeal). The Committee is expected to serve as both objective reviewers of the work and as advisers to the student.
- The Design Review (Appeal) committee will keep minutes of its deliberations. All recommendations from the Committee shall have written explanations and/or justifications, which will be provided to the student, the faculty member, and the Associate Dean, and made part of the student’s academic file. The Associate Dean will be responsible for communicating the results of a Review (Appeal) to the student.

### The outcome of the Design Review

- A recommendation to the faculty member regarding the grade appeal of the student. Action upon that recommendation is undertaken solely at the discretion of the faculty member. No faculty member is compelled to change a grade in response to the recommendation of the Design Review Committee.
- A requirement for the student to repeat the design studio course and any co-requisite.
- A recommendation for enrollment in the subsequent studio course, while advising the student of the need to achieve and maintain a cumulative 2.00 (in the studio sequence) for admission to the professional program.
- An academic advising plan to guide the student toward successful completion of his/her degree requirements or the pursuit of an alternate career path.

All efforts shall be made to achieve clarity and reconciliation, so that the student is able to move forward positively in his/her academic career.

## Bachelor of Architecture Degree

### Course List

- Completion of the following 94-hour professional program:

#### Architectural Design

ARCH 1015	Fundamental Design Skills (Su, Fa)	5
ARCH 1025	Fundamental Design Methodology (Sp, Su)	5
ARCH 2016	Architectural Design III (Fa)	6
ARCH 2026	Architectural Design IV (Sp)	6
ARCH 3016	Architectural Design V (Fa)	6
ARCH 3026	Architectural Design VI (Sp)	6
ARCH 4016	Comprehensive Studio (Fa)	6

ARCH 4026	Comprehensive Studio (Sp)	6
ARCH 5016	Option Studio I (Sp)	6
ARCH 5026	Option Studio II (Su)	6
<b>Architectural Technology</b>		
ARCH 1212	Design Thinking I: Foundations in Technology (Su, Fa)	2
ARCH 2113	Architectural Structures I (Fa)	3
ARCH 2123	Architectural Structures II (Sp)	3
ARCH 2132	Environmental Technology I (Fa)	2
ARCH 3143	Building Materials and Assemblies (Sp, Fa)	3
ARCH 3253	Environmental Technology II (Sp)	3
ARCH 4152	Building Systems Integration (Sp, Fa)	2
<b>History and Theory of Architecture</b>		
ARCH 1222	Design Thinking II: Foundations in History (Sp, Su)	2
ARCH 2233	History of Architecture I (Fa)	3
ARCH 2243	History of Architecture II (Sp)	3
ARCH 4433	History of Architecture III (Fa)	3
ARCH 4523	Architectural Theory (Sp)	3
<b>Professional Practice</b>		
ARCH 5314	Architectural Professional Practice (Fa)	4
Total Hours		94

2. Completion of the 35-hour general University Core requirements (p. 81). In addition, specific requirements are listed below:

#### Mathematics

Select one of the following:		3
MATH 1213	Plane Trigonometry (ACTS Equivalency = MATH 1203) (Sp, Su, Fa)	
MATH 2033	Mathematical Thought (Sp, Su, Fa)	
MATH 2043	Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)	
MATH 2053	Finite Mathematics (Sp, Su, Fa)	

#### Laboratory Science

##### Required

Select one of the following:		4
PHYS 1044	Physics for Architects I (Fa)	
PHYS 2013 & PHYS 2011L2014	College Physics I (ACTS Equivalency = PHYS & PHYS 2011L2014 Lecture) (Su, Fa) and College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab) (Su, Fa)	

##### Strongly Recommended

Select one of the following:		4
PHYS 1054	Physics for Architects II (Sp)	
PHYS 2033 & PHYS 2031L2024	College Physics II (ACTS Equivalency = PHYS & PHYS 2031L2024 Lecture) (Sp, Su) and College Physics II Laboratory (ACTS Equivalency = PHYS 2024 Lab) (Su)	

3. Completion of 30 hours of electives, as follows:

<b>Professional Electives</b>	15
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Chosen from upper-level courses (courses numbered 3000 or above) taught on the Fayetteville campus in the Fay Jones School of Architecture and Design and allied disciplines. Students participating in the Rome program may present Architecture of the City (ARCH 4653) for professional elective credit. All other elective courses will be used to fulfill free elective requirements.

<b>Free Electives</b>	13
<b>Total Hours</b>	28

- A minimum of 157 hours with a 2.00 cumulative grade-point average at this institution both in all work attempted and in all professional course work attempted is required.
- Participation for at least one semester in an approved international educational experience. (See Off-Campus Study Requirement (p. 160).)

NOTE: No more than three hours of physical education and/or R.O.T.C. may be counted toward a degree. Courses not acceptable toward degree credit include those of a remedial or orientation nature and whose content are considered to be measurably duplicated elsewhere in the curriculum. ARCH 1003 is not counted toward degree credit for architecture majors. University Perspectives (UNIV 1001) does not count towards degree credit.

By following the preceding curriculum, students will meet the state-mandated University Core Requirements. They must also meet all other university requirements for graduation. See the university Academic Regulations (p. 68).

Sample curriculum for the Bachelor of Architecture degree can be obtained from the school's advising center.

#### Professional Licensure Degree Requirement

The National Architectural Accrediting Board (NAAB) only accredits professional programs offering the Bachelor of Architecture, which requires a minimum of five years of study, and the Master of Architecture degrees. These professional degrees are structured to educate those who aspire to registration and licensure to practice as architects. The curricular requirements for awarding these degrees must include three components — general studies, professional studies, and electives. Together these three components comprise a liberal education in architecture and ensure that graduates will be technically competent, critical thinkers who are capable of defining multiple career paths within a changing societal context.

While no four-year degrees are accredited by NAAB, the Bachelor of Science in Architectural Studies degree is excellent for those who want a foundation in the field of architecture as preparation for either continued education in a professional degree program or for employment in fields related to architecture.

#### History of Architecture and Design Minor

This minor will provide students with a structured curriculum for developing skills of scholarship and applied research in the history of architecture and design. Students in our professional design programs will broaden their opportunities in professional practice or prepare to pursue graduate education in this area; students in allied disciplines from the larger campus will have the opportunity to complement and enhance majors in humanities and social science disciplines with close study of the history of the made and natural environments. In addition, the minor will

encourage cross-disciplinary and interdisciplinary learning experiences for students through methods of architectural historical inquiry.

**Pre-requisites for the Minor in History of Architecture and Design (HARD-M):**

For Fay Jones School students:

ARCH 1015	Fundamental Design Skills (Su, Fa) or LARC 131Fundamental Design Skills (Fa) or IDES 103Fundamental Design Skills (Su, Fa)
ARCH 1025	Fundamental Design Methodology (Sp, Su) or LARC 1325Fundamental Design Methodology (Sp, Su) or IDES 1045Fundamental Design Methodology (Sp, Su)
ARCH 1212	Design Thinking I: Foundations in Technology (Su, Fa)
ARCH 1222	Design Thinking II: Foundations in History (Sp, Su)

For all other students:

ARCH 1003	Basic Course in the Arts: Architecture Lecture (Sp, Fa) or LARC 1003Basic Course in the Arts: The American Landscape (Sp, Fa) or ARHS 1003Basic Course in the Arts: Art Lecture (ACTS Equivalency = ARTA 1003) (Sp, Su, Fa)
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**Requirements for the Minor in History of Architecture and Design:**

**History of Architecture and Design Core Courses** <sup>1</sup> 9

Select three courses from the following:

ARCH 2233	History of Architecture I (Fa) <sup>1</sup>
ARCH 2243	History of Architecture II (Sp) <sup>1</sup>
ARCH 4433	History of Architecture III (Fa)
ARCH 4523	Architectural Theory (Sp)
LARC 3413	History of Landscape Architecture I (Fa)
LARC 4413	History of Landscape Architecture II (Sp)
LARC 4033	Theory (Fa)
IDES 2883	History of Interiors (Fa)

**Advanced History of Architecture and Design Courses** 9

Select 9 credit hours of 3000-plus level courses from the following:

ARCH 4483	Architecture of the Americas (Irregular)
ARCH 4553	Modern Architecture in Mexico (Su) <sup>2</sup>
ARCH 4673	Modern and Contemporary Rome (Sp, Fa) <sup>2</sup>
ARCH 4843	Medieval Architecture (Irregular)
ARCH 4853	Renaissance and Baroque Architecture (Irregular)
ARCH 4863	Saint Peter's and the Vatican (Irregular)
ARCH 5493	History of Urban Form (Irregular)
ARCH 4023	Advanced Architectural Studies (Sp, Fa) (variable topics in history of architecture) <sup>3</sup>
LARC 402V	Special Studies (Irregular) (variable topics in the history of landscape architecture) <sup>3</sup>

Total Hours	18
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<sup>1</sup> A Fay Jones School student can present only 9 hours of courses required for the major field of study for credit for the minor. 3000-plus courses that are not required for the major can be presented for "advanced" credit in the minor.

- <sup>2</sup> Only 3 hours of credit earned in Study Abroad courses can be presented for credit toward the History of Architecture and Design minor.
- <sup>3</sup> A menu of variable topics courses that will qualify for credit toward the History of Architecture and Design Minor is published every semester.

**Architecture B.Arch. Ten-Semester Degree Program**

The professional program for a Bachelor of Architecture Degree requires 10 semesters of coursework and is not eligible for the Eight-Semester Degree Completion Program. It also requires admission to the professional program after the third year of classes. However, the following 10-semester sample plan shows how a first-year student could obtain a Bachelor of Architecture Degree in five years if the student is admitted to the Fall-Spring Architectural Design Studio and subsequently is admitted to the professional program. Students not accepted into the fall studio will begin ARCH 1015 in the first summer session (granted all fall requirements are met) followed by ARCH 1025 in the second summer session.

Students should be aware that PHYS 1044, PHYS 1054 (or an approved alternate laboratory science in the University Core) and one of the listed MATH courses must be completed before students can begin second-year courses in Architecture. Transfer students and students who change majors and seek exceptions to the sample curriculum will be reviewed on an individual basis.

Students in the professional program are required to participate in an approved study abroad experience. Students can chose from either a fall or spring semester of 4th year in Rome, Italy or a summer program (summer prior to 4th or 5th year) in a designated Latin or Central American country. Students can elect to participate in both but only one program can serve as a substitution for ONE fourth year studio semester. Should a student participate in both study abroad programs, the additional program would go to professional elective hours.

First Year	Units	
	Fall	Spring
ARCH 1015 Fundamental Design Skills (Su, Fa)	5	
ARCH 1212 Design Thinking I: Foundations in Technology (Su, Fa)	2	
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
Select from one of the following:	3	
HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)		
HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)		
PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)		
PHYS 1044 Physics for Architects I (Fa)	4	
UNIV 1001 University Perspectives (Sp, Su, Fa)		
See Footnote 1		
ARCH 1025 Fundamental Design Methodology (Sp, Su)		5



ARCH 1222 Design Thinking II: Foundations in History (Sp, Su)	2	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)	3	
Select from one of the following:	3	
MATH 2053 Finite Mathematics (Sp, Su, Fa)		
MATH 1213 Plane Trigonometry (ACTS Equivalency = MATH 1203) (Sp, Su, Fa)		
MATH 2033 Mathematical Thought (Sp, Su, Fa)		
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)		
PHYS 1054 Physics for Architects II (Sp)	4	
Year Total:	17	17

Second Year	Units	
	Fall	Spring
ARCH 2016 Architectural Design III (Fa)	6	
ARCH 2113 Architectural Structures I (Fa)	3	
ARCH 2132 Environmental Technology I (Fa)	2	
ARCH 2233 History of Architecture I (Fa)	3	
Social Science Core	3	
ARCH 2026 Architectural Design IV (Sp)		6
ARCH 2123 Architectural Structures II (Sp)		3
ARCH 2243 History of Architecture II (Sp)		3
Social Science Core		3
Year Total:	17	15

Third Year	Units	
	Fall	Spring
ARCH 3016 Architectural Design V (Fa)	6	
ARCH 3143 Building Materials and Assemblies (Sp, Fa)	3	
ARCH 4433 History of Architecture III (Fa)	3	
Fine Arts or Humanities Core	3	
ARCH 3026 Architectural Design VI (Sp)		6
ARCH 3253 Environmental Technology II (Sp)		3
ARCH 4523 Architectural Theory (Sp)		3
Social Science Core		3
Fine Arts or Humanities Core		3
See Footnote 2		
Year Total:	15	18

Fourth Year	Units	
	Fall	Spring
Fall Rome Semester		
ARCH 4116 Architectural Design - Rome (Sp, Fa)	6	
ARCH 4653 Architecture of the City (Sp, Fa)	3	
Rome Electives	6	
Spring On Campus Semester		
ARCH 4026 Comprehensive Studio (Sp)		6
ARCH 4152 Building Systems Integration (Sp, Fa)		2
Professional Elective		3
Free Elective		3

See Footnote 3		
Year Total:	15	14

Fifth Year	Units	
	Fall	Spring
ARCH 5016 Option Studio I (Sp)	6	
Free Elective	3	
ARCH 5314 Architectural Professional Practice (Fa)	4	
Professional Elective	3	
ARCH 5026 Option Studio II (Su)		6
Professional Electives		6
Free Elective		3
Year Total:	16	15

Total Units in Sequence:	159
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Note<sup>1</sup> Students are reviewed at the end of the fall semester and may continue the program if they meet the following criteria: "C" or better in ARCH 1015, Architectural Design I; "C" or better in PHYS 1044, Physics for Architects I or an approved equivalent; "C" or better in ARCH 1212, Design Thinking I: Foundations in Technology; Maintain a 2.0 GPA. Students who do not meet these criteria will receive a letter and be advised accordingly.

Note<sup>2</sup> All university core courses must be completed by the end of the third year. Admission to ARCH 4016 is contingent upon admission to the professional program.

Note<sup>3</sup> If the student participates in the Rome program in the spring semester, the course plan for fourth year is reversed. Students may also choose to participate in the 10-week Latin American study abroad program in the summer before their 3rd or 4th year. If a student chooses to do both programs, only one studio will count towards the required studio sequence. The additional hours may count towards professional programs.

## Interior Design (IDES) Faculty

**Kimberley J. Furlong**, Assistant Professor

**Marie Gentry**, Associate Professor

**Carl W. Matthews**, Professor

**Jennifer D. Webb**, Associate Professor

Carl Matthews, Department Head

Vol Walker Hall, room 111

479-575-7599

The Interior Design faculty is composed of well-qualified educators and practitioners who foster an attitude of inquiry and learning based on their individual skills and interests. A professional advisory board supports the program and serves as external critics/jurors. Intellectual development of students is stimulated and leadership qualities enhanced throughout the four-year curriculum. The Interior Design Organization (IDO) and American Society of Interior Designers Student Chapter (ASID) allow for interaction of students with professionals in interior design and allied professions. Both faculty and students participate in professional design association activities.

The studio sequence increases in complexity throughout the curriculum. The rigor of the program requires a significant commitment of time and energy. Students can expect to spend much time independent of studio classes to complete projects.

To promote a broader perspective of design, students are required to participate in a study abroad experience. In addition, both overnight and day field trips are required for studio courses.

A supervised 200- hour internship experience is required for graduation. The one-credit hour summer internship generally occurs in the summer before the fourth year. Students have been placed in interior design firms, architectural offices, Main Street programs, governmental agencies, hospitality and casino design firms, and a wide range of other allied industries. Geographically, students have completed internships in Los Angeles, San Francisco, Seattle, New York, Las Vegas, Washington, D.C., Denver, Dallas, Chicago, Kansas City, and other major cities in the United States, as well as international locations such as London and Edinburgh.

## Academic Policies – Department of Interior Design

The following academic policies, beyond the requirements of the university, are applicable to all students in the Interior Design Program.

1. Successful completion of all IDES coursework requires demonstration of competence as evidenced by achieving a grade of "C" or better in those courses. Failure to achieve this minimum standard will require retaking the studio or lecture course.
2. Each student's progress through the design studio sequence is monitored and governed by the faculty and subject to a Design Review process.
3. Any student receiving an "I" in a design studio must complete all work necessary to receive a grade prior to the first day of the next studio in the student's prescribed sequence to be eligible to enroll in that studio.
4. Prior to graduation, a student must present a 2.00 cumulative grade point average at this institution in all work attempted including the university state minimum core, electives and in each interior design course.

## Design Review Procedure – Department of Interior Design

Design Review is a process initiated by a faculty member, department head, or by a student. The committee composed of interior design faculty may review a student's design work within a studio course as well as other professional courses. The review process may be used by students to appeal grades and to seek resolution of conflicts with faculty when there are questions of fairness and equity in grading. Grade appeals initiated by students will occur during the week prior to the start of class in the subsequent semester. Petitions for this review must be made through the advising center prior to the scheduled meeting of the Design Review Committee. Grade appeals may be filed as soon as the student receives his or her final grade. In all cases, the student shall exhibit, at the place and time specified by the Design Review Committee, ALL work assigned and attempted for the course in the semester under review. Faculty are required to provide appropriate documentation including, but not limited to, the course syllabus, grading policy, and semester assignments. In the case of an appeal, the appeal will be presented to the entire Interior

Design faculty for consideration and may require the students to present their case in person.

The outcome of the Design Review process may include:

1. A recommendation to the faculty member regarding the grade appeal of the student.
2. A requirement for the student to repeat the design studio course or lecture course.
3. A recommendation for enrollment in the subsequent studio course, while advising the student of the need to achieve and maintain a cumulative 2.00 (in the studio sequence) to progress in the program.

## Interior Design B.I.D. Nine-Semester Degree Plan

The Bachelor of Interior Design can be completed in nine semesters that includes a summer internship. The one-credit hour summer internship occurs in the summer before fourth year. University Perspectives (UNIV 1001) does not counts towards degree credit. Please see the Fay Jones School of Architecture Advising Center for specific core course requirements and elective options.

First Year	Units		
	Fall	Spring	Summer
UNIV 1001 University Perspectives (Sp, Su, Fa)			
IDES 1035 Fundamental Design Skills (Su, Fa)	5		
ARCH 1212 Design Thinking I: Foundations in Technology (Su, Fa)	2		
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3		
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3		
IDES 1045 Fundamental Design Methodology (Sp, Su)			5
ARCH 1222 Design Thinking II: Foundations in History (Sp, Su)			2
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)			3
Fine Arts or Humanities Core			3
Social Science Requirement			3
Year Total:	13	16	

Second Year	Units		
	Fall	Spring	Summer
IDES 2804 Interior Design Studio III (Fa)	4		
IDES 2883 History of Interiors (Fa)	3		
ART/ARCH Elective	3		
Social Science Core Requirement	3		
IDES 2723 Digital Media in Design (Su, Fa)	3		
IDES 2814 Interior Design Studio IV (Sp)			4

Select one of the following:	3		
HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)			
HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)			
PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)			
Science Core	4		
Social Science Core Requirement	3		
Interior Design Study Abroad			3
Year Total:	16	14	3

Third Year	Units		
	Fall	Spring	Summer
IDES 3805 Interior Design Studio V (Fa)	5		
IDES 3833 Building Systems for Interior Design (Fa)	3		
ARCH 4433 History of Architecture III (Fa)	3		
IDES 4823 Professional Practice for Interior Design (Fa)	3		
IDES 3815 Interior Design Studio VI (Sp)		5	
IDES 3843 Lighting Systems (Sp)		3	
IDES 4813 Human Factors for Design (Sp)		3	
Fine Arts or Humanities Course		3	
IDES 4811 Internship for Interior Design (Su)			1
Year Total:	14	14	1

Fourth Year	Units		
	Fall	Spring	Summer
IDES 4805 Interior Design Studio VII (Fa)	5		
Professional Electives	3		
Business Elective	3		
Select one of the following:	3		
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)			
ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)			
ECON 2143 Basic Economics: Theory and Practice (Sp, Su, Fa)			
IDES 4815 Interior Design Studio VIII (Sp)		5	
Business Elective		3	
Science Core		4	
Professional Elective		3	

Year Total: 14 15

Total Units in Sequence: 120

## Minor in Interior Design

All students in the Fay Jones School of Architecture seeking an Interior Design minor are required to complete 28 hours in the following courses or their equivalencies:

IDES 1035	Fundamental Design Skills (Su, Fa)	5
IDES 1045	Fundamental Design Methodology (Sp, Su)	5
IDES 2804	Interior Design Studio III (Fa)	4
IDES 2823	Interior Design Materials (Sp)	3
IDES 2883	History of Interiors (Fa)	3
IDES 3843	Lighting Systems (Sp)	3
IDES 4813	Human Factors for Design (Sp)	3
IDES 465V	Special Topics (Irregular)	1-6

Total Hours 28

## Landscape Architectural Studies (LARC)

### Faculty

**Scott Biehle**, Clinical Assistant Professor

**Noah Scott Billig**, Assistant Professor

**Kimball Douglas Erdman**, Associate Professor

**Phoebe M. Lickwar**, Assistant Professor

**Carl Alan Smith**, Associate Professor

### Bachelor of Science in Landscape Architectural Studies

The Bachelor of Science in Landscape Architectural Studies degree is offered to those who wish to gain considerable knowledge of the ecological, social, cultural and historical factors that have shaped landscapes of the western and non-western world. This degree will provide a comprehensive theoretical framework that will suit students wishing to enter careers at the municipal, state and federal levels. This degree will also serve students who wish to pursue a career in environmental design but do not seek landscape architecture licensure.

The program utilizes existing professional courses within the Departments of Landscape Architecture, Architecture, Interior Design and the university to fulfill the required course work. The minimum number of hours of credit required for graduation is 120.

### Requirements for a bachelor of Science in Landscape Architectural Studies

1. Completion of the following 26 -hour landscape architecture studies program:

#### Landscape Architecture Design

LARC 1003	Basic Course in the Arts: The American Landscape (Sp, Fa)	3
ARCH 1212	Design Thinking I: Foundations in Technology (Su, Fa)	2
ARCH 1222	Design Thinking II: Foundations in History (Sp, Su)	2
LARC 1315	Fundamental Design Skills (Fa)	5

LARC 1325	Fundamental Design Methodology (Sp, Su)	5
<b>History and Theory of Landscape Architecture</b>		
LARC 3413	History of Landscape Architecture I (Fa)	3
LARC 4413	History of Landscape Architecture II (Sp)	3
LARC 4033	Theory (Fa)	3
Total Hours		26

2. Completion of the following 35-hour state minimum core requirements
3. Completion of UNIV 1001 University Perspectives (Sp, Su, Fa), which does not count for credit
4. Completion of 59 hours of electives:

**Professional Concentration Electives** 22

Credits may be from upper-level (3000 or above) courses from the departments of landscape architecture and architecture, sociology, geography, horticulture or other approved courses in an allied discipline or other courses that contribute to the fulfillment of a recognized minor.

**Free Electives** 15

to include at least one course in ARCH and one course in IDES

**Departmental Electives** 16

Select 16 hours from the following departmental electives:

LARC 2113	Design Communications I (Fa)	3
LARC 2123	Design Communications II (Sp)	3
LARC 2714	Landscape Architecture Construction I (Sp)	4
LARC 302V	Special Studies (Irregular)	Max 3 hours
LARC 3724	Landscape Construction II (Fa)	4
LARC 3734	Landscape Architecture Construction III (Sp)	4
LARC 3914	Planting Design I (Fa)	4
LARC 3933	Cultural Landscape Studies (Su)	3
LARC 4123	Urban Form Studies (Su)	3
LARC 4714	Landscape Architecture Construction IV (Fa)	4
LARC 4743	Public Participation in Design and Planning (Irregular)	3
LARC 4753	Incremental Sprawl Repair (Irregular)	3
LARC 5043	Landscape Architecture Seminar (Irregular)	3
LARC 5053	Historic Landscape Preservation (Irregular)	3
LARC 5063	Alternative Stormwater Management (Irregular)	3
LARC 5493	Environmental Land Use Planning (Sp)	3
LARC 5613	Landscape Architectural Professional Practice (Sp)	3
ARCH 1013	Diversity and Design (Su)	3
ARCH 4023	Advanced Architectural Studies (Sp, Fa) <sup>Reading, Writing, and Drawing the American Landscape</sup>	3
GEOS 4073	Urban Geography (Sp)	3
<b>Interdisciplinary Core</b>		6

A minimum of 120 hours with a 2.00 cumulative grade-point average at this institution both in all work attempted and in course work completed in the Department of Landscape Architecture and the School of Architecture.

Course work taken to remove course deficiencies assigned during admission or transfer will not be counted toward the degree. Similarly,

courses considered to be remedial or developmental will not count toward the degree.

Students admitted to the university with a completed two-year associate of arts or associate of science degree from an Arkansas state-supported two-year or four-year college or university will receive credit for general education (core) requirements in accordance with ACT 182. All students also must complete any lower division discipline specific courses required for the major.

Although not a requirement in the four-year degree, students are encouraged to participate in the department's summer study abroad program. The course work will count towards professional elective requirements.

### Landscape Architectural Studies B.S. Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan while pursuing a Bachelor of Science in Landscape Architectural Studies should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program.

First Year	Units	
	Fall	Spring
LARC 1315 Fundamental Design Skills (Fa)	5	
ARCH 1212 Design Thinking I: Foundations in Technology (Su, Fa)	2	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3	
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
Social Science Requirement	3	
UNIV 1001 University Perspectives (Sp, Su, Fa) (does not count for credit)	0	
LARC 1325 Fundamental Design Methodology (Sp, Su)		5
ARCH 1222 Design Thinking II: Foundations in History (Sp, Su)		2
LARC 1003 Basic Course in the Arts: The American Landscape (Sp, Fa)		3
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
Social Science Requirement		3
Year Total:	16	16

Second Year	Units	
	Fall	Spring
LARC 3413 History of Landscape Architecture I (Fa)	3	
GEOS 1113 General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa)	3	
GEOS 1111L General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)	1	
Social Science Requirement	3	
Fine Arts Requirement	3	
Departmental Elective	3	
Select one of the following:		3

HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)		
HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)		
PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)		
LARC 4413 History of Landscape Architecture II (Sp)		3
Humanities Core Requirement		3
Select one of the following:		4
BIOL 1613 Plant Biology (ACTS Equivalency = BIOL 1034 Lecture) (Sp, Su)		
BIOL 1611L Plant Biology Laboratory (ACTS Equivalency = BIOL 1034 Lab) (Sp, Su)		
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa)		
BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)		
Departmental Elective		3
Year Total:	16	16

Third Year	Units	
	Fall	Spring
Departmental Elective	4	
Professional Elective	4	
Free Elective	6	
Interdisciplinary Core Requirement		3
Professional Elective		6
Departmental Elective		3
Free Elective		3
Year Total:	14	15

Fourth Year	Units	
	Fall	Spring
LARC 4033 Theory (Fa)	3	
Professional Elective	6	
Departmental Elective	3	
Free Elective	3	
Professional Electives		6
Free Elective		3
Interdisciplinary Core Requirement		3
Year Total:	15	12

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Total Units in Sequence: 120

## Minors for Landscape Architectural Studies Students

Landscape Architectural Studies candidates may pursue an academic minor. The minor must be in a field other than the major area, and the students must notify the department of their intention to minor. An academic minor ordinarily consists of 15-18 hours, which are dictated by the department of the minor. Students in Landscape Architectural

Studies may choose from any recognized minor offered by the University; however, they are encouraged to consider the following fields:

Public Policy, Planning, History, Geography, and Horticulture, and further encouraged to consider cross-disciplinary study in African-American Studies, Anthropology, Art History, Business Administration, Classical Studies, Communication, Computer Sciences, Economics, English, European Studies, Gender Studies, Latin-American Studies, Philosophy, Political Science, Psychology, Sociology and Sustainability.

Although foreign study is not required for candidates in Landscape Architectural Studies, students in the curriculum are encouraged to participate in the School of Architecture's off-campus study abroad programs in Europe, Rome and Latin or Central America. Community planning projects are offered through the University of Arkansas Community Design Center (UACDC).

To take maximum advantage of the opportunities of the four-year degree program, each student in the Landscape Architectural Studies program shall work with the department faculty advisers to develop a program of study emphasizing special interests, to cultivate a specialization related to the field, and to guide preparation for graduate study, if desired.

## Minor in Planting Design (for Horticulture majors)

17 Hours Total Required

### Required Courses

LARC 2113	Design Communications I (Fa)	3
LARC 2714	Landscape Architecture Construction I (Sp)	4
LARC 3914	Planting Design I (Fa)	4

### Electives

Select two of the following:		6
LARC 1003	Basic Course in the Arts: The American Landscape (Sp, Fa)	
LARC 2123	Design Communications II (Sp)	
LARC 303V	Special Projects (Irregular)	
LARC 3413	History of Landscape Architecture I (Fa)	
LARC 3724	Landscape Construction II (Fa)	
LARC 4413	History of Landscape Architecture II (Sp)	
LARC 5063	Alternative Stormwater Management (Irregular)	
HORT 4043	Professional Landscape Management (Odd years, Fa)	
HORT 4603	Practical Landscape Planning (Even years, Sp)	

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Total Hours 17

## Minor in Planning

The departments of Landscape Architecture and Political Science collaboratively offer an interdisciplinary minor in Planning for students interested in regional and urban planning. A student who wants to minor in Planning should notify either the Department of Landscape Architecture or Political Science and consult an academic adviser. A Planning minor consists of 18 hours of required and elective courses subdivided into three concentrations. A student should choose one concentration and take 6 hours of elective courses in that concentration. The minor's required and elective courses include:

### Required Courses:

LARC 5386	Landscape Architecture Design VIII (Sp)	6
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or LARC 5493 Environmental Land Use Planning (Sp)		
and one 3 credit-hour elective from the Spatial Concentration		
PLSC 3253	Urban Politics (Sp)	3
PLSC 4103	Introduction to Urban Planning (Fa)	3
<b>Electives</b>		<b>6</b>
Select two courses from one group		
<b>Policy Group:</b>		
ANTH 4443	Cultural Resource Management I (Sp)	
ANTH 5113	Anthropology of the City (Irregular)	
ENSC 3413	Principles of Environmental Economics (Sp)	
LARC 4033	Theory (Fa)	
LARC 4743	Public Participation in Design and Planning (Irregular) (Public Participation in Design and Planning not offered until 2014)	
PLSC 390V	Special Topics (Sp, Su, Fa)	
PLSC 4283	Federalism and Intergovernmental Relations (Even years, Sp)	
HDFS 4603	Environmental Sociology (Fa)	
SCMT 3443	Transportation and Distribution Management (Sp, Fa)	
<b>Spatial Group:</b>		
ARCH 5493	History of Urban Form (Irregular)	
ARCH 5933	Preservation and Restoration (Irregular)	
ANTH 5113	Anthropology of the City (Irregular)	
ENSC 3413	Principles of Environmental Economics (Sp)	
GEOS 4073	Urban Geography (Sp)	
LARC 402V	Special Studies (Irregular)	
LARC 4033	Theory (Fa)	
LARC 4753	Incremental Sprawl Repair (Irregular) (Incremental Sprawl Repair not offered until 2014)	
LARC 5053	Historic Landscape Preservation (Irregular)	
HDFS 4603	Environmental Sociology (Fa)	
<b>Environmental Group:</b>		
ANTH 4443	Cultural Resource Management I (Sp)	
ANTH 4603	Landscape Archaeology (Fa)	
BIOL 3863	General Ecology (Sp, Fa)	
ENSC 3223	Ecosystems Assessment (Even years, Fa)	
ENSC 3221L	Ecosystems Assessment Laboratory (Even years, Fa)	
ENSC 3413	Principles of Environmental Economics (Sp)	
LARC 4033	Theory (Fa)	
LARC 5053	Historic Landscape Preservation (Irregular)	
HDFS 4603	Environmental Sociology (Fa)	
<b>Total Hours</b>		<b>18</b>

## Landscape Architecture (LARC) Faculty

**Scott Biehle**, Clinical Assistant Professor

**Noah Scott Billig**, Assistant Professor

**Kimball Douglas Erdman**, Associate Professor

**Phoebe M. Lickwar**, Assistant Professor

**Carl Alan Smith**, Associate Professor

Ken McCown

Department Head

Vol Walker Hall

479-575-4907

<http://architecture.uark.edu/academics/landscape-architecture>

## Bachelor of Landscape Architecture Degree

1. Completion of the following Professional core:

### Design and Graphics

LARC 1315	Fundamental Design Skills (Fa)	5
LARC 1325	Fundamental Design Methodology (Sp, Su)	5
LARC 2113	Design Communications I (Fa)	3
LARC 2123	Design Communications II (Sp)	3
LARC 2336	Landscape Architecture Design III (Fa)	6
LARC 2346	Landscape Architecture Design IV (Sp)	6
LARC 3356	Landscape Architecture Design V (Fa)	6
LARC 3914	Planting Design I (Fa)	4
LARC 3366	Landscape Architecture Design VI (Sp)	6
LARC 4376	Landscape Architecture Design VII (Fa)	6
LARC 4382	Senior Project Preparation (Sp)	2
LARC 5386	Landscape Architecture Design VIII (Sp)	6
LARC 5396	Landscape Architecture Design IX (Fa)	6

### Landscape Architecture/History/Theory

LARC 3413	History of Landscape Architecture I (Fa)	3
LARC 4033	Theory (Fa)	3
LARC 4413	History of Landscape Architecture II (Sp)	3

### Summer Study Abroad

LARC 3933	Cultural Landscape Studies (Su)	3
LARC 4123	Urban Form Studies (Su)	3

### Landscape Architecture Technical Courses

LARC 2714	Landscape Architecture Construction I (Sp)	4
LARC 3724	Landscape Construction II (Fa)	4
LARC 3734	Landscape Architecture Construction III (Sp)	4
LARC 4714	Landscape Architecture Construction IV (Fa)	4
HORT 3103	Woody Landscape Plants (Fa)	3

### Professional Practice

LARC 5613	Landscape Architectural Professional Practice (Sp)	3
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**Total Hours** 101

2. Completion of the 35-hour University Core (p. 81). As part of the University Core, the department recommends the following:

### Laboratory Science

Select two of the following: 8

BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL & BIOL 1541L 1014 Lecture) (Sp, Su, Fa)  
and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)

BIOL 1613 Plant Biology (ACTS Equivalency = BIOL 1034 & BIOL 1611L Lecture) (Sp, Su)  
and Plant Biology Laboratory (ACTS Equivalency = BIOL 1034 Lab) (Sp, Su)

GEOS 1113 General Geology (ACTS Equivalency = GEOL & GEOS 1111U114 Lecture) (Sp, Su, Fa)  
and General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)

Total Hours 8

3. Completion of the following additional general education requirements:

**Professional Electives** 12

Students may select courses from the Departments of Landscape Architecture and Architecture as well as courses in history, geography, horticulture, art, sociology, environmental studies, and business. These courses can be thematically selected to emphasize urban studies, ecological planning, construction management, and land development.

**Free Electives** 9

Students are encouraged to take courses outside the Department to broaden their education.

4. Candidates seeking graduation shall achieve a minimum of 157 hours and a minimum of a "C-" in each course within the professional curriculum. The remaining balance of hours shall have a minimum of 2.00 cumulative grade point average. Students must maintain a minimum 2.0 cumulative grade-point average to continue in the studio sequence. Any student receiving a "D+/-" or below in the professional core shall repeat the course. Any student with a second "D+/-" or below shall be considered for non-continuance in the program as determined by the department head and faculty. To continue in the professional program, the student must submit a portfolio after their second year for faculty review. Please see section "Admission to the Professional Program in Landscape Architecture."
5. Students in landscape architecture are required to complete the department's summer study abroad program, after their third year.

NOTE: No more than four hours of physical education and/or R.O.T.C. may be counted toward a degree. Courses not acceptable toward degree credit include those of a remedial or orientation nature and whose content are considered to be measurably duplicated elsewhere in the school's curriculum. University Perspectives (UNIV 1001) does not count towards degree credit.

By following the preceding curriculum, students will meet the state-mandated University Core requirements. They must also meet all other University Requirements (p. 75) for graduation. The department strongly recommends that transfer students present eight hours of laboratory science courses selected from botany, biology, geology, and physical science as part of the State Minimum Core.

Students admitted to the university with a completed two-year associate of arts or associate of science degree from an Arkansas state-supported two-year or four-year college or university will receive credit for general education (core) requirements in accordance with ACT 182. All students also must complete any lower division discipline specific courses required for the major as well as all courses required to comply with the conditions of accreditation.

### Grade Appeals – Department of Landscape Architecture

Students in the Department of Landscape Architecture may appeal grades in the design studios as well as other professional courses in which it is believed that there are questions of fairness or equity in the application of the published grading policy of the faculty member. Appeals must be

made in writing to the department head one week before the first week of the subsequent semester. The appeal will be presented to the entire Landscape Architecture faculty for consideration and may require the students to present their case in person. Outcomes of grade appeals may result in one of the following:

1. A recommendation to the faculty member regarding the grade appeal of the student.
2. A requirement for the student to repeat the design studio course and any co-requisite.
3. A recommendation for enrollment in the subsequent studio course, while advising the student of the need to achieve and maintain a cumulative 2.00 (in the studio sequence) for admission to the professional program.

## Professional Licensure Degree Requirement

The School's Bachelor of Landscape Architecture program is accredited by LAAB, which requires that specific criteria be met in a professional program. This five-year professional program gives its graduates the required prerequisite degree to qualify to take the licensing exam and prepares them for practice.

All fifty states require licensure for landscape architects. The primary purpose of this licensure is to "protect the health, safety, and welfare of the public." Most states require that candidates possess an accredited degree in landscape architecture and complete a period of professional experience, working with a licensed landscape architect. Once these requirements are complete, candidates must pass a national, uniform exam, sometimes with additional sections unique to that state.

## Minor in Planning

The departments of Landscape Architecture and Political Science collaboratively offer an interdisciplinary minor in Planning for students interested in regional and urban planning. A student who wants to minor in Planning should notify either the Department of Landscape Architecture or Political Science and consult an academic adviser. A Planning minor consists of 18 hours of required and elective courses subdivided into three concentrations. A student should choose one concentration and take 6 hours of elective courses in that concentration. The minor's required and elective courses include:

### Required Courses:

LARC 5386	Landscape Architecture Design VIII (Sp)	6
or LARC 5493	Environmental Land Use Planning (Sp)	
and one 3 credit-hour elective from the Spatial Concentration		

PLSC 3253	Urban Politics (Sp)	3
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PLSC 4103	Introduction to Urban Planning (Fa)	3
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**Electives** 6

Select two courses from one group

### Policy Group:

ANTH 4443	Cultural Resource Management I (Sp)
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ANTH 5113	Anthropology of the City (Irregular)
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ENSC 3413	Principles of Environmental Economics (Sp)
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LARC 4033	Theory (Fa)
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LARC 4743	Public Participation in Design and Planning (Irregular) (Public Participation in Design and Planning not offered until 2014)
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PLSC 390V	Special Topics (Sp, Su, Fa)
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PLSC 4283	Federalism and Intergovernmental Relations (Even years, Sp)
HDFS 4603	Environmental Sociology (Fa)
SCMT 3443	Transportation and Distribution Management (Sp, Fa)
<b>Spatial Group:</b>	
ARCH 5493	History of Urban Form (Irregular)
ARCH 5933	Preservation and Restoration (Irregular)
ANTH 5113	Anthropology of the City (Irregular)
ENSC 3413	Principles of Environmental Economics (Sp)
GEOS 4073	Urban Geography (Sp)
LARC 402V	Special Studies (Irregular)
LARC 4033	Theory (Fa)
LARC 4753	Incremental Sprawl Repair (Irregular) (Incremental Sprawl Repair not offered until 2014)
LARC 5053	Historic Landscape Preservation (Irregular)
HDFS 4603	Environmental Sociology (Fa)
<b>Environmental Group:</b>	
ANTH 4443	Cultural Resource Management I (Sp)
ANTH 4603	Landscape Archaeology (Fa)
BIOL 3863	General Ecology (Sp, Fa)
ENSC 3223	Ecosystems Assessment (Even years, Fa)
ENSC 3221L	Ecosystems Assessment Laboratory (Even years, Fa)
ENSC 3413	Principles of Environmental Economics (Sp)
LARC 4033	Theory (Fa)
LARC 5053	Historic Landscape Preservation (Irregular)
HDFS 4603	Environmental Sociology (Fa)
Total Hours 18	

### Landscape Architecture B.L.A. Ten-Semester Degree Program

The professional program for a Bachelor of Landscape Architecture Degree must be completed in 10 semesters of coursework and is not eligible for the Eight-Semester Degree Completion Program. However, the following 10-semester sample plan shows how a first-year student could obtain a Bachelor of Landscape Architecture degree in five years if the student is admitted to the Landscape Architecture Design Studio and subsequently is admitted to the professional program.

First Year	Units		
	Fall	Spring	Summer
LARC 1315 Fundamental Design Skills (Fa)	5		
Select one of the following:	4		
BIOL 1613 Plant Biology (ACTS Equivalency = BIOL 1034 Lecture) (Sp, Su) & BIOL 1611L Plant Biology Laboratory (ACTS Equivalency = BIOL 1034 Lab) (Sp, Su)			

BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)			
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3		
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3		
UNIV 1001 University Perspectives (Sp, Su, Fa)	0		
GEOS 1113 General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa) & GEOS 1111L General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)			4
LARC 1325 Fundamental Design Methodology (Sp, Su)			5
SOCI 2013 General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa)			3
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)			3
Year Total:	15		15

Second Year	Units		
	Fall	Spring	Summer
LARC 2336 Landscape Architecture Design III (Fa)	6		
LARC 3413 History of Landscape Architecture I (Fa)	3		
HORT 3103 Woody Landscape Plants (Fa)	3		
LARC 2113 Design Communications I (Fa)	3		
LARC 2346 Landscape Architecture Design IV (Sp)			6
Social Science Core Requirement			3
LARC 2123 Design Communications II (Sp)			3
LARC 2714 Landscape Architecture Construction I (Sp)			4
Year Total:	15	16	

Third Year	Units		
	Fall	Spring	Summer
LARC 3356 Landscape Architecture Design V (Fa)	6		
LARC 3724 Landscape Construction II (Fa)	4		
LARC 3914 Planting Design I (Fa)	4		
Social Science Core Requirement	3		
LARC 3366 Landscape Architecture Design VI (Sp)			6



LARC 4413 History of Landscape Architecture II (Sp)			3
LARC 3734 Landscape Architecture Construction III (Sp)			4
HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa) or HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa) Study Abroad			3
LARC 3933 Cultural Landscape Studies (Su)			3
LARC 4123 Urban Form Studies (Su)			3
Year Total:	17	16	6

Fourth Year	Units		
	Fall	Spring	Summer
LARC 4376 Landscape Architecture Design VII (Fa)	6		
LARC 4714 Landscape Architecture Construction IV (Fa)	4		
Professional Elective	3		
LARC 4033 Theory (Fa)	3		
LARC 5386 Landscape Architecture Design VIII (Sp)		6	
Fine Arts Core Requirement		3	
LARC 4382 Senior Project Preparation (Sp)		2	
LARC 5613 Landscape Architectural Professional Practice (Sp)		3	
Professional Elective		3	
Year Total:	16	17	

Fifth Year	Units		
	Fall	Spring	Summer
LARC 5396 Landscape Architecture Design IX (Fa)	6		
Free electives	6		
Professional electives		6	
Humanities core requirement		3	
Free Elective		3	
Year Total:	12	12	

Total Units in Sequence: 157

## J. William Fulbright College of Arts and Sciences

### Mission and Objectives

Few in 20th century America did more to advance the study of international relations or promote human understanding than J. William Fulbright. Committed to the idea that a free society and a peaceful world require, above all, an educated citizenry, he urged with unflagging energy the use of historical perspective, cultural relativity, and scientific objectivity

in the study of human affairs. Senator Fulbright, like Thomas Jefferson, Andrew Jackson, and Abraham Lincoln before him, was committed to the belief that an educated, enlightened electorate will act not only in its own self-interest but also in the interest of all the people of the world.

In recognition of J. William Fulbright's contribution to the cause of liberal education and of his many services to his native state, the Board of Trustees of the University of Arkansas on November 20, 1981, resolved...

The College of Arts and Sciences at the University of Arkansas, Fayetteville, shall be named, henceforth, the J. WILLIAM FULBRIGHT COLLEGE OF ARTS AND SCIENCES. His name will imbue that college, and the University, with his reputation and image for a devoted interest in higher education and its accomplishments through its scholars as reflected in its students.

The college has adopted as its mission the following statement from Fulbright's writings:

... the highest function of higher education is the teaching of things in perspective, toward the purposes of enriching the life of the individual, cultivating the free and inquiring mind, and advancing the effort to bring reason, justice, and humanity into the relations of men and nations.

Consisting of 19 departments and numerous centers and research units, Fulbright College has a twofold mission: to provide a broad, liberal education to all students within the university community and to furnish specialized knowledge at the upper division and graduate levels leading to a professional career. The general education curriculum within the college is designed to assure students' mastery of the English language, provide knowledge of the historical, social, intellectual, and linguistic bases of human culture, provide habits of thought useful in later life, encourage the development of aesthetic, political, and ethical values, and offer the necessary foundation for professional competence or further training in professional or graduate schools. The general education curriculum of the college is based on the Platonic assumption that the pursuit of knowledge is an intrinsically good activity and that it is incumbent upon all members of an enlightened society to engage in that pursuit.

Recognizing that its students must become productive members of contemporary American society, Fulbright College offers undergraduate majors in fields ranging from chemistry and art to journalism, physics, social work and psychology. In addition, the college, in cooperation with the Graduate School, offers course work leading to master's degrees and doctoral degrees. As a natural corollary of their instructional role, faculty members of the college pursue active research programs that enable them simultaneously to provide state-of-the-art education to their students and bring national and international recognition to the university.

In sum, Fulbright College lies at the very heart of the university. The seat of liberal learning within the institution and the state, it is committed to providing excellent general education to all members of the student body and specialized instruction of the highest quality to its own majors.

## Facilities and Resources

### Academic Advising Services

The Fulbright College of Arts and Sciences provides an adviser for each student enrolled in the college. Freshman- and sophomore-level students, including departmental honors students, are advised in the Fulbright College Advising Center in Old Main 518. All four-year honors undeclared major students and all freshman-level four-year honors declared major students receive advising from the Fulbright Honors Program office in Old Main 517. Advisers in the Fulbright College Advising Center will

assist students in program planning and will help them to become aware of and familiar with the academic offerings of the university. Students should consult their advisers on a regular basis, not limited to registration matters but including all areas of their academic careers. Personnel in the Fulbright College Advising Center or the Dean's office will direct students to the appropriate advising office.

Students should discuss with their advisers opportunities for individual variations as well as regular course requirements. Programs and facilities of particular interest to individuals may include the Honors Program, programs for advanced placement and credit by examination, study abroad and the services of the University Career Development Center.

The Career Development Center administers and interprets tests that measure individual ability, interest, and achievement, and thus may aid also in counseling students about the field of study in which they are most likely to be effective and successful.

For questions regarding advising, contact the Fulbright College Advising Center at 575-3307 or visit online at <http://fcac.uark.edu>.

## Degrees Offered

The J. William Fulbright College of Arts and Sciences offers four-year curricula leading to the degrees of Bachelor of Arts (B.A.), Bachelor of Science (B.S.), Bachelor of Fine Arts (B.F.A.), Bachelor of Music (B.M.), and Bachelor of Social Work (B.S.W.). Each candidate for the B.A. and B.S. degrees selects a major field for specialized study. In addition to usual departmental majors there are interdepartmental majors and special programs for students preparing for professional degrees in law, medicine, dentistry, and teaching.

## College Admissions Requirements

Students seeking admission to the J. William Fulbright College of Arts and Sciences must meet the general requirements for admission to the university. In addition, students are expected to present two units (years) of a single modern or ancient world language. Those unable to meet this standard will be expected to begin their collegiate world language study as soon as possible after matriculation. For these students, completion of one semester of language study will be considered to satisfy the admission deficiency. Students transferring from other colleges at the University of Arkansas or from other institutions are expected to meet the same entrance standard.

## College Scholarships

Foremost among scholarships available in the J. William Fulbright College of Arts and Sciences is the Sturgis Fellowship. This scholarship enables Fulbright College to offer outstanding graduates of secondary and preparatory schools undergraduate fellowships valued at \$50,000 for four collegiate years.

Students studying in the humanities or classics may qualify for the J. William and Elizabeth W. Fulbright Scholarship for study abroad. This award is for students who are at least juniors and is intended to support a year of study abroad.

The King Fahd Center for Middle East Studies offers two-year undergraduate scholarships for superior students interested in pursuing the study of the Middle East or Islam.

In addition, students may compete for a number of privately endowed scholarships, which are awarded on a competitive basis to those who qualify. Application for these general Fulbright College scholarships and awards is made through the Office of the Dean, 525 Old Main. Students may obtain more detailed information about the above-named scholarships and other Fulbright College scholarships at <http://fulbright.uark.edu/scholarships/index.php>.

Other scholarships are available from the departments of Fulbright College. Information may be sought from the departmental chair of the student's major.

## Student Organizations

There are many general-interest societies and organizations to which students may belong, and nearly every department of the university maintains an honor society through which high scholarship is rewarded. Students in Fulbright College may aspire to membership in the following organizations:

- Alpha Chi Sigma (chemistry)
- Alpha Epsilon Delta (pre-medical, medical technology, pre-dental)
- Alpha Kappa Delta (sociology)
- Alpha Phi Sigma (criminal justice)
- Alpha Psi Omega (drama)
- American Association of Petroleum Geologists (geoscience)
- American Chemical Society (chemistry)
- American Society for Photogrammetry and Remote Sensing (geoscience)
- Delta Phi Alpha (German)
- Eta Sigma Phi (Greek and Latin)
- Gamma Theta Upsilon (geography)
- Kappa Kappa Psi (band, men)
- Kappa Tau Alpha (journalism)
- Lambda Alpha (anthropology)
- Lambda Pi Eta (communication)
- Lambda Tau (writers)
- Omicron Delta Epsilon (economics)
- Phi Alpha (social work)
- Phi Alpha Theta (history)
- Phi Beta Delta (international scholarship)
- Phi Beta Kappa (arts and sciences)
- Phi Kappa Phi
- Phi Mu Alpha (music, men)
- Pi Kappa Delta (forensics)
- Pi Mu Epsilon (mathematics)
- Pi Sigma Alpha (political science)
- Psi Chi (psychology)
- Sigma Alpha Iota (music, women)
- Sigma Delta Pi (Spanish)
- Sigma Gamma Epsilon (geology)
- Sigma Pi Sigma (physics)
- Tau Beta Sigma (band, women)

## College Academic Regulations

Courses of study in the Fulbright College of Arts and Sciences are designed to give students the comprehensive view of society that the modern world requires. Students who enroll in Fulbright College, or who elect some of its courses, have an opportunity to gain a broad cultural education, which is a part of intelligent living and, at the same time, to prepare for professions or to acquire technical training in the sciences. The college has two major teaching functions: to provide basic general education in the arts and sciences necessary to all persons for effective participation in the complex world in which we live; and, second, to furnish the student an opportunity to specialize in the field of the student's choice.

To implement the first of these aims and to furnish a broad base for the accomplishment of the second, the faculty of Fulbright College has adopted the requirements listed below for each degree.

Specific course requirements may be fulfilled in one of four ways:

1. Establishing credit in approved courses:
  - a. By enrolling in and completing the required work in the course,
  - b. By examination (credit will be entered as CR on a student's record as explained in Advanced-Standing Programs (p. 71)),
  - c. By advanced achievement, i.e., by satisfactory completion of a more advanced course of a sequence. For example, students who earn a grade of "C" or better in a third-semester foreign language course may be granted credit for the second semester course upon recommendation of the Department of World Languages, Literatures, and Cultures, and approval by the Dean of the college. (This does not apply to work taken as a self-paced online [correspondence] course or in transfer.)
2. Gaining exemption by examination. Announced exemption examinations are routinely offered in several courses. Students may consult any department or the dean's office concerning exemption examinations.
3. Advanced placement by examination. A student who is granted advanced placement may elect to substitute a more advanced course for the listed required course.
4. Transfer credit. Students presenting transfer credit in lieu of stated requirements may be asked to present official course descriptions, etc. Transfer work with grades of "D" or "F" will not be accepted.

## Degree Completion Program Policy

### Fulbright College of Arts and Sciences Graduation Requirements

In addition to the specific course requirements for the degree plan and major, be aware that there are general graduation requirements that every student in Fulbright College must complete.

1. Minimum Total Semester Hour Requirement  
B.A., B.S. and B.S.W. Degrees: 120 hours  
B.M.: 120 - 124 hours  
B.F.A.: 120 - 123 hours
2. Residency Requirement
  - a. University Residency (Enrollment) Requirement  
Students must earn a minimum of 30 semester hours at the University of Arkansas, Fayetteville campus – this includes UA faculty-led study abroad classes, online/on-campus classes,

and Global Campus courses; and all other courses paid towards Fayetteville campus tuition and fees. These 30 semester hours are to be upper-division semester hours required for the completion of a degree program. Additional hours in residence can be required for completing a minor. Hours earned in another school or college at UA, Fayetteville, may be used to satisfy this requirement with approval of appropriate faculty curriculum committee.

- b. College Residency Requirement and 24 Hour Rule  
A student graduating from Fulbright College must have completed at least 30 hours of credit in courses offered by Fulbright College, at least 24 of which must be 3000 and 4000 level courses from departments in Fulbright College.
  - c. Major/Minor Residency Requirement (50 Percent Rule)  
A student graduating with a major or a minor from Fulbright College must have completed a minimum of 50 percent of degree credit work within the Fulbright College major or within the Fulbright College minor at the University of Arkansas through courses completed at the University of Arkansas, Fayetteville campus as defined in the University Residency Requirement. This percentage completion requirement may be higher for some majors and minors. Students should review individual departmental requirements to verify if a higher percentage is required by their specific major or minor department.
3. 40-Hour Rule  
Students must present for degree credit at least 40 hours of work in courses numbered 3000 and above. Included in these 40 hours can be courses numbered 2000 if each has a specific course designated as a prerequisite. It is highly recommended that students complete all 40 hours in courses numbered 3000 and higher. These courses may be taken from other colleges or universities as long as the college residency requirement and the 24-hour rule are satisfied.
  4. Grade-Point Average  
Students graduating from Fulbright College must have a minimum cumulative GPA of 2.00.
  5. 68-Hour Rule  
Students who transfer into the university may present for degree credit no more than 68 hours of lower division course work (1000 and 2000 level).
  6. Writing Requirement  
Students graduating from Fulbright College must write a research/analytical paper for at least one upper-division course in his or her major. Each department has determined its own procedures for certifying completion of this requirement. Questions should be referred to the departmental chairperson. A student may choose to write a senior thesis in a major area of study. The thesis may be accorded up to six hours of credit. Defense of the thesis before a committee is required. Satisfactory completion of an honors project or a senior thesis may be submitted to meet the college writing requirement.
  7. Students must complete the stated requirements for a Fulbright College major in addition to all university requirements for graduation, including the University Core requirements.

Questions concerning fulfilling the requirements should be referred to the student's adviser or to the dean's office, which will maintain current lists of approved courses, experimental offerings approved to fulfill requirements for a specified period of time, examination schedules, and other options available to the student.

## Graduation with Distinction

Students who have not completed a Fulbright college or departmental honors degree program but have otherwise demonstrated academic excellence in baccalaureate degree programs in the J. William Fulbright College of Arts and Sciences will be recognized at graduation by the designation of “with high distinction” or “with highest distinction.” To earn this designation, the student must meet the following criteria upon degree completion:

1. The student must have completed at least one-half of his or her degree work at the University of Arkansas.
2. For “with high distinction,” the student must achieve a cumulative U of A GPA of 3.8 to 3.899.
3. For “with highest distinction,” the student must achieve a cumulative U of A GPA of 3.9 or higher.

The criteria may be evaluated and changed periodically by the Fulbright College of Arts and Sciences.

## Combined Academic and Medical or Dental Degree

Fulbright College offers a Bachelor of Science degree in medical science or medical science (dentistry). A student may substitute the first year of regular medical or dental work taken in any standard, approved medical or dental school for 33 hours of the 120 hours required for the Bachelor of Science degree provided that the following requirements are met:

1. Completion of all university/state core requirements for a B.S. degree, as appropriate, prior to student’s entrance in medical or dental school.
2. Completion of a minimum of 12 hours of courses numbered above 3000 taken in Fulbright College.
3. Completion of at least 30 hours immediately prior to student’s entrance in medical or dental school in residence in Fulbright College.

Students interested in this degree should consult with their adviser or with the Fulbright College dean’s office early in their program. Formal application for the degree should be made to the Registrar.

This program is for highly qualified students with outstanding academic records who may be eligible for early admission to medical school or dental school programs. The year of a medical or dental study substitutes for the major in the B.S. degree program.

## Additional Majors

Students fulfilling all requirements for the B.S., B.S.W., B.F.A. and B.M. degrees, including all core requirements and at least one major in these degree programs, may also claim an additional major in a humanistic discipline, social science, or interdisciplinary program associated with a B.A. degree. Upon completion of all major requirements of the additional discipline, the additional major will be made part of the student’s transcript; however, a B.A. degree is not awarded. Students interested in this option should consult regularly with an academic adviser in the additional major and must notify the Fulbright College dean’s office (MAIN 525) when degree application is made.

## Graduate Studies

The Graduate School, in cooperation with the faculty of Fulbright College of Arts and Sciences, offers work leading to the graduate certificate or to the degrees of Master of Arts, Master of Science, Master of Music, Master

of Fine Arts, Master of Public Administration, Master of Social Work, and Doctor of Philosophy.

Students interested in any of these advanced degrees should consult the *Graduate School Catalog* or the Dean of the Graduate School.

## Accreditations

The American Council on Education in Journalism and Mass Communications has accredited the Bachelor of Arts (B.A.) degree program in journalism. The Bachelor of Arts (B.A.), Bachelor of Music (B.M.), and Master of Music (M.M.) degree programs in the Department of Music are accredited by the National Association of Schools of Music. The Doctor of Philosophy (Ph.D.) degree program in clinical psychology is accredited by the American Psychological Association. The Bachelor of Social Work (B.S.W.) degree and the Master of Social Work (M.S.W.) degree are accredited by the Council on Social Work Education.

## Office of the Dean of the College

525 Old Main, 479-575-4804

### Dean

Todd G. Shields

### Associate Deans

Steven J. Beaupre, Jeannine M. Durdik, Kathryn A. Sloan

### Assistant Deans

Simon C. Chua, Lisa J. Summerford

## Office of Academic Services

525 Old Main, 479-575-4801

## Advising Center

Shane W. Barker, Director  
518 Old Main, 479-575-3307

## Honors Studies

Sidney J. Burris, Director  
517 Old Main, 479-575-2509

**World Wide Web:** [fulbright.uark.edu](http://fulbright.uark.edu)

**E-mail:** [fulbright@uark.edu](mailto:fulbright@uark.edu)

After majors and minors are listed, other programs of study, such as pre-professional programs are listed.

## Majors and Minors

### Majors

- Anthropology (p. 200)
- Art (p. 204)
- Biology (p. 215)
- Chemistry (p. 221)
- Classical Studies (p. 231)
- Communication (p. 234)
- Criminal Justice (p. 236)
- Earth Science (p. 238)
- Economics (p. 240) (Bachelor of Arts)
- English (p. 243)
- French (p. 357)

- Geography (p. 252)
- Geology (p. 254)
- German (p. 357)
- History (p. 259)
- International Studies (p. 266)
- Journalism (p. 269)
- Mathematics (p. 283)
- Music (p. 292)
- Philosophy (p. 323)
- Physics (p. 325)
- Political Science (p. 340)
- Psychology (p. 344)
- Social Work (p. 348)
- Sociology (p. 352)
- Spanish (p. 357)
- Theatre (p. 355)

## Second (or dependent) Majors

A second (or dependent) major is one that a student may pursue as a major if the student is already pursuing a first major that is authorized to be given independently.

- African and African American Studies (p. 198)
- Asian Studies (p. 214)
- European Studies (p. 250)
- Latin American and Latino Studies (p. 281)
- Middle East Studies (p. 291)

## Minors

Academic minors in approved degree programs are options available to students in the Fulbright College of Arts and Sciences. The minor must be in a field other than the major, and students must notify the department of their intention to minor. An academic minor ordinarily consists of 15-18 hours. Specific requirements for the minor are given in the section entitled Departments, Majors, and Minors. Minors may be chosen from the following fields:

- African and African American Studies
- Anthropology
- Arabic
- Art History
- Asian Studies
- Biology
- Business
- Chemistry
- Chinese (Business Orientation)
- Classical Studies
- Communication
- Criminal Justice
- Economics
- English
- European Studies
- French
- Gender Studies
- Geography

- Geology
- German
- Historic Preservation
- History
  - Indigenous Studies
- Japanese (Business Orientation)
- Jewish Studies
- Latin American and Latino Studies
- Legal Studies
- Mathematics
- Medieval and Renaissance Studies
- Middle East Studies
- Music
- Philosophy
- Physics
- Political Science
- Psychology
- Religious Studies
- Social Work
- Sociology
  - Southern Studies
- Spanish
- Statistics
- Theatre

Fulbright College also recognizes all official minors offered by sister colleges at the University of Arkansas. Students wishing to have such minors made a part of their transcript must notify the Fulbright College dean's office (MAIN 525) no later than when degree application is made.

## Other Programs

### Undergraduate Preparation for Professional Programs

The Fulbright College of Arts and Sciences offers comprehensive support for students pursuing a wide array of professional and graduate programs.

Because undergraduate preparation for these programs requires diligent planning, students should contact the Advising Center or appropriate faculty advisor as soon as possible. The Fulbright College Advising Center is in Old Main 518 and can be reached at 479-575-3307 or [fcac@uark.edu](mailto:fcac@uark.edu). Supported programs include (but are not limited to) the following:

- Dentistry
- Law
- Medicine
- Occupational Therapy
- Optometry
- Pharmacy
- Physical Therapy
- Physician Assistant
- Secondary Education

**Pre-Dental Program:** All dental schools require a minimum of three years of college work, and most schools give preference to applicants who have completed a baccalaureate degree. The minimum requirements

for admission to most dental schools can be met at the University of Arkansas by completing the following courses:

ENGL 1013	Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3
ENGL 1023	Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)	3
BIOL 1543 & BIOL 1541L	Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	4
And at least 8 additional hours of biology (BIOL 1603/BIOL 1601L is recommended)		8
PHYS 2013 & PHYS 2011L	College Physics I (ACTS Equivalency = PHYS 2014 Lecture) (Su, Fa) and College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab) (Su, Fa)	4
PHYS 2033 & PHYS 2031L	College Physics II (ACTS Equivalency = PHYS 2024 Lecture) (Sp, Su) and College Physics II Laboratory (ACTS Equivalency = PHYS 2024 Lab) (Su)	4
CHEM 1103 & CHEM 1101L	University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) and University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)	4
CHEM 1123 & CHEM 1121L	University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) and University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)	4
CHEM 3603 & CHEM 3601L	Organic Chemistry I (Su, Fa) and Organic Chemistry I Laboratory (Su, Fa)	4
CHEM 3613 & CHEM 3611L	Organic Chemistry II (Sp, Su) and Organic Chemistry II Laboratory (Sp, Su)	4
CHEM 3813	Elements of Biochemistry (Sp, Su, Fa)	3

CLEP and AP credit is not accepted. Dental schools have a variety of additional course requirements and pre-dental students should check each school's website.

Mathematics is not a general requirement, but students are expected to have a background equivalent to college algebra and trigonometry.

Students who complete a minimum of 90 hours of work may qualify for the combined degree program provided that they complete the requirements for graduation in Fulbright College of Arts and Sciences.

All dental schools require the Dental Admissions Test. It is suggested that applicants take the DAT one year prior to the time they plan to enter dental school. A student planning a career in dentistry should contact Dr. J.C. Rose, Department of Anthropology, 479-575-2508.

**Pre-Law Program:** While there is no prescribed pre-law curriculum, Fulbright College offers a minor in legal studies administered through the department of political science. Students considering a career in law may consult the *School of Law Catalog* or the Fulbright College Advising Center for information concerning certain categories of courses that may be helpful to the study and practice of law. Students uncertain about a major degree program should contact the Fulbright College Advising Center.

A baccalaureate degree is required for admission to the University of Arkansas School of Law, except for those students in the Fulbright

College of Arts and Sciences who are admitted to the special six-year program referred to in the paragraph immediately following. All applicants for admission are required to take the Law School Admission Test. (See page 281.)

The University of Arkansas School of Law at Fayetteville and the Fulbright College of Arts and Sciences jointly administer a six-year program whereby highly qualified students may earn both the bachelor's degree and the Juris Doctor degree. Any student enrolled in the J. William Fulbright College of Arts and Sciences during a spring semester shall be permitted to matriculate in the School of Law in the following fall semester if the admission complies with Section 1 of Part A of the law school's admission policies and if the student meets the following conditions:

1. At least 30 consecutive hours of course work in Fulbright College,
2. At least 94 hours credited toward a bachelor's degree by Fulbright College,
3. Completion of Fulbright College's requirements for a major in connection with the bachelor's degree,
4. A cumulative grade-point average in all college or University course work of at least 3.50, without grade renewal,
5. An LSAT score of at least 159.

A student may substitute law school course work for the remaining total hours required for the bachelor's degree from Fulbright College. Formal application for the degree should be made to the Registrar. Information about the program may be obtained in the dean's office or the Fulbright Advising Center.

**Pre-Medical Program:** Medical schools in general require a minimum of 90 semester hours of college credit exclusive of military science and physical education, and most recommend that the student complete a baccalaureate degree. All medical schools have specific course requirements, and the student should determine those requirements for the school or schools of his or her choice. The minimum requirements for many medical schools can be met by completion of the following courses:

ENGL 1013	Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3
ENGL 1023	Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)	3
BIOL 1543 & BIOL 1541L	Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	4
Plus one other course in biological sciences, or equivalent. UAMS specifically requires:		3-4
BIOL 2323	General Genetics (Sp, Fa)	
CHEM 1103 & CHEM 1101L	University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) and University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)	4
CHEM 1123 & CHEM 1121L	University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) and University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)	4
CHEM 3603 & CHEM 3601L	Organic Chemistry I (Su, Fa) and Organic Chemistry I Laboratory (Su, Fa)	4
CHEM 3613 & CHEM 3611L	Organic Chemistry II (Sp, Su) and Organic Chemistry II Laboratory (Sp, Su)	4
CHEM 3813	Elements of Biochemistry (Sp, Su, Fa)	3

MATH 1203 & MATH 1213	College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) and Plane Trigonometry (ACTS Equivalency = MATH 1203) (Sp, Su, Fa)	4-6
or MATH 2554	Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	
STAT 2023 or STAT 2303	Biostatistics (Sp) Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)	3
PHYS 2013 & PHYS 2011L & PHYS 2033 & PHYS 2031L	College Physics I (ACTS Equivalency = PHYS 2014 Lecture) (Su, Fa) and College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab) (Su, Fa) and College Physics II (ACTS Equivalency = PHYS 2024 Lecture) (Sp, Su) and College Physics II Laboratory (ACTS Equivalency = PHYS 2024 Lab) (Su)	8
or PHYS 2054 & PHYS 2074	University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa) and University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa)	
2 Social Sciences, preferably:		6
PSYC 2003	General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)	
SOCI 2013	General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa)	

Most medical schools will not accept CLEP credit, and in some cases, AP credit for the required courses above is not accepted.

Most medical schools will not accept on-line or web-based classes to fulfill requirements.

Additional courses are recommended. Special opportunities and experiences are available to pre-medical students through the Liebolt Premedical Program (<http://premed.uark.edu>).

Pre-medical students are encouraged to complete the requirements for the B.A. or B.S. degree. As part of these requirements the student must choose a major, but the choice of a major has no direct bearing upon admission to medical school and should reflect the particular interests of the student. If a student is admitted to a medical school prior to completion of the baccalaureate degree requirements, he/she may wish to take advantage of the combined degree program in medical science. If that program is elected, the student should complete all of the basic University and college requirements for graduation during residence on the UA campus.

Most medical schools require the Medical College Admissions Test (MCAT), which is administered at several testing sites in Arkansas on specific dates from January to September each year. The MCAT normally should be taken in the spring preceding application to medical school. Admission to medical school is highly competitive, and a good grade-point average is demanded. A grade-point average of 3.30 is the minimum likely to receive favorable consideration. A grade of "D" in any course required by the medical school is not considered satisfactory. Advising is available through Dr. Neil Allison, Department of Chemistry and Biochemistry, 479-575-5179, and Dr. Jeanne McLachlin, Department of Biological Sciences, 479-575-5348. Dr. Allison serves as chair of the University of Arkansas Pre-medical Advisory Committee. For information, visit the University of Arkansas pre-medical website at <http://premed.uark.edu>.

**Pre-Pharmacy Program:** Entrance requirements for pharmacy schools vary; therefore, students should research the schools of their choice to determine specific prerequisite course work. The University of Arkansas for Medical Sciences College of Pharmacy requires 69 hours of pre-professional courses to include: 4 hours of calculus, 9 hours of English/Communication, 16 hours of chemistry, 12 hours of biology, 4 hours of physics, 3 hours of economics, 6 hours of critical thinking/problem solving, and 15 hours of humanities.

Students are advised to begin taking humanities electives during the second semester of their freshman year. Since pharmacy schools have many more applicants than they can accept, the student is urged to earn a grade point average much higher than the minimum of 2.00.

Grades are a major consideration when admission committees evaluate a student's qualifications for acceptance. The University of Arkansas College of Pharmacy and other pharmacy schools also require applicants to take the Pharmacy College Admission Test (PCAT). This may be taken in November or February. The pre-pharmacy adviser for the University of Arkansas is Lorraine Brewer, Department of Chemistry and Biochemistry, 479-575-3103.

**Secondary Education Programs:** Acceptance in a teacher education program is governed by regulations approved by the University Teacher Education Board for Initial Licensure and administered by the College of Education and Health Professions and the Fulbright College of Arts and Sciences. Students in Fulbright College can pursue secondary education licensure in the following areas: Art, Drama/Speech, English, World Languages, Mathematics, Music, Life/Earth Science, Physical/Earth Science, or Social Studies. Students in all subject areas, except Art and Music, must meet the admission requirements for the Master of Arts in Teaching (M.A.T.) (<http://cied.uark.edu/2068.php>) degree.

All students pursuing entrance into the M.A.T. degree program must complete specific coursework prior to acceptance. Pre-MAT transcript evaluation forms are available on the College of Education and Health Professions website. Pre-MAT transcript evaluation forms provide the undergraduate courses required for admission to the M.A.T. degree program for each of the following designated licensure areas:

Communication/Drama 7-12 (<http://coehp.uark.edu/PreMatDramaSpeech.pdf>)  
English 7-12 ([http://coehp.uark.edu/PreMATEnglish\\_TranscriptEval8-11.pdf](http://coehp.uark.edu/PreMATEnglish_TranscriptEval8-11.pdf))  
French 7-12 ([http://coehp.uark.edu/PreMAT\\_French.pdf](http://coehp.uark.edu/PreMAT_French.pdf))  
German 7-12 ([http://coehp.uark.edu/PreMAT\\_German.pdf](http://coehp.uark.edu/PreMAT_German.pdf))  
Life/Earth Science 7-12 ([http://coehp.uark.edu/PreMAT\\_ReqTransEvalLifeEarthSci7\\_12.pdf](http://coehp.uark.edu/PreMAT_ReqTransEvalLifeEarthSci7_12.pdf))  
Mathematics 7-12 ([http://coehp.uark.edu/080812PreMATmath\\_sec\\_ed.pdf](http://coehp.uark.edu/080812PreMATmath_sec_ed.pdf))  
Physical Science 7-12 ([http://coehp.uark.edu/PreMAT\\_ReqTransEvalPhysicalSci7\\_12.pdf](http://coehp.uark.edu/PreMAT_ReqTransEvalPhysicalSci7_12.pdf))  
Physics/Math 7-12 ([http://coehp.uark.edu/PreMAT\\_ReqTransEvalPhysicsMath7\\_12.pdf](http://coehp.uark.edu/PreMAT_ReqTransEvalPhysicsMath7_12.pdf))  
Social Studies 7-12 ([http://coehp.uark.edu/PreMATSEED\\_SST\\_Transcript\\_Eval\\_\\_8-23-13.pdf](http://coehp.uark.edu/PreMATSEED_SST_Transcript_Eval__8-23-13.pdf))  
Spanish ([http://coehp.uark.edu/PreMAT\\_Spanish7\\_12.pdf](http://coehp.uark.edu/PreMAT_Spanish7_12.pdf))

For more information on entry into the secondary education Master of Arts in Teaching (<http://cied.uark.edu/2068.php>) degree program, please consult with a College of Education and Health Professions advisor: Peabody Hall 109, 479-575-4209 or with an advisor in the Fulbright

College of Arts and Sciences Advising Center, Old Main, Room 518, 479-575-3307.

Students intending to obtain licensure in Mathematics or the Sciences may either pursue the requirements for Fulbright College students seeking entrance into and certification through the M.A.T. (<http://ciied.uark.edu/2068.php>) program or follow the requirements set forth in the UAteach undergraduate curriculum in addition to their major requirements. Students wishing to pursue licensure through the UAteach undergraduate curriculum should consult with a UAteach adviser, [uteach@uark.edu](mailto:uteach@uark.edu) ().

UAteach Additional Curriculum Requirements for Mathematics and Science Majors

ARSC 1201 Inquiry Approaches to Teaching: UAteach Step I (Sp, Fa)  
ARSC 1221 Inquiry-Based Lesson Design: UAteach Step II (Sp, Fa)  
BIOL 3273, CHEM 3273 or PHYS 3273 UAteach Research Methods (Sp)  
STEM 2103 Knowing and Learning in Science and Mathematics (Sp, Fa)  
STEM 2203 Classroom Interactions (Fa)  
STEM 3303 Project Based Instruction for Secondary Mathematics and Science (Fa)  
STEM 4333 Perspectives on Science and Mathematics  
STEM 4409 Supervised Clinical Teaching in Science and Mathematics Education (Sp)

Students intending to obtain teacher licensure in Art or Music will follow the education requirements set forth in the Bachelor of Fine Arts and Bachelor of Music degrees, respectively.

### Cooperative Education

The Cooperative Education program is designed to offer students an opportunity to participate in a work experience directly related to their academic major. The program also insists that at least minimal academic credit be awarded, thus ensuring that the work experience will be directly related to the student's academic program. Cooperative Education offers advantages to students needing assistance in financing their education, and it offers the college a tangible way to demonstrate our conviction that although we do not stress vocational or professional training per se, there is nothing inimical between a liberal arts education and the world of work. Prerequisites include 45 credit hours, a cumulative GPA of 2.50, and consent of the academic coordinator. A maximum of 4 credit hours of ARSC 310V (Cooperative Education) may be applied toward the student's degree.

Detailed information about Cooperative Education may be obtained from the Office of the Dean, Fulbright College, 525 Old Main.

## Honors Program

Sidney Burris  
Director of Honors Studies  
517 Old Main  
479-575-2509  
<http://fulbrighthonors.uark.edu>

To create an intellectual environment that challenges the best of students, the J. William Fulbright College of Arts and Sciences provides a comprehensive program of honors studies. This includes the College Honors Program, a four-year interdisciplinary honors program for students of superior academic ability or artistic talent, and the Departmental Honors Program, an honors program emphasizing directed independent study within a department or discipline of the college.

For admission into the Fulbright College Honors Program, an incoming student must have at least a 3.5 high school grade point average and a minimum ACT composite score of 28 or 1310 SAT. A current Fulbright College student must have a University of Arkansas grade point average of 3.5 or above and a faculty recommendation from the department of study.

A student who successfully completes a program of honors studies within Fulbright College is eligible to receive a baccalaureate degree with the distinction College Scholar *cum laude*, or Departmental Scholar *cum laude* in the major field of study. Higher distinctions of *magna cum laude* or *summa cum laude* may be awarded to outstanding honors students by recommendation of the Fulbright College Honors Council.

To earn the distinction Fulbright College Scholar *cum laude* at graduation, a student must successfully complete the honors core curriculum, maintain a minimum grade-point average of 3.5, and satisfy requirements for departmental honors in the major field of study, including preparation and oral defense of an honors thesis. The Honors Council may award the higher distinctions of *magna cum laude* or *summa cum laude* based upon a student's total academic performance, including the academic transcript, the quality of the scholarly activity pursued within the major field of study, and the breadth of college study as a whole.

To earn the distinction of Departmental Scholar *cum laude* at graduation, a student must successfully complete requirements prescribed by the major department, including an honors thesis and oral examination, maintain a minimum grade-point average of 3.5, and take 12 hours (which may include six hours of thesis) in honors studies. If a student demonstrates superior academic performance or an exceptionally high level of scholarly activity, the Honors Council may award the distinction of *magna cum laude*. In exceptional instances where truly outstanding work within the major field is coupled with the superior understanding of its relationship to the college work as a whole, the distinction *summa cum laude* may be awarded.

For more information about honors studies within Fulbright College, visit the web site at <http://fulbrighthonors.uark.edu>.

## Degrees with Honors

The J. William Fulbright College of Arts and Sciences is dedicated to providing students a liberal education in the arts, humanities, and sciences. Such an education should be soundly based, innovative, and enriched by a creative faculty. This is especially true for students with superior academic ability or artistic talent. To achieve these aims, the college faculty has developed and participates in the College Honors Program and the Departmental Honors Program.

**Requirements for the College Honors Program:** Credit or exemption for University Core in English composition, including ENGL 1013 and ENGL 1023, and in American history or American government, completion of the requirements for honors in a department or study area of the college, including preparation and oral defense of an honors thesis, a cumulative grade-point average of 3.5 or above, and completion of the honors core curriculum. Students who do not have at least a 3.5 GPA will not be allowed to graduate with honors.

**Requirements for the Departmental Honors Program:** Specific academic requirements including course work, participation in departmental honors colloquia or seminars, and independent study projects are established by the faculty of the individual departments or study areas and are approved by the Honors Council. However, all departmental honors students must have a 3.5 cumulative grade-point



average, complete and defend an honors thesis, and take 12 hours (which may include six hours of thesis) in Honors Studies. Information concerning these requirements is given within each department's catalog listings.

The minimum academic requirements of the honors core curriculum for the B.A./B.S.W., B.S., B.M., and B.F.A. degree programs can be found in the degree requirements for each program listed below.

## Honors Core Curriculum Bachelor of Arts or Bachelor of Social Work Degree

Requirements for graduating with honors: Specific academic requirements including course work, participation in departmental honors colloquia or seminars, and independent study projects are established by the faculty of the individual departments or study areas and are approved by the Honors Council. However, all honors students must have a 3.5 cumulative grade-point average, complete and defend an honors thesis, and take 12 hours (which may include six hours of thesis) in Honors Studies. Information concerning these requirements is given within each department's catalog listings.

The following outlines the minimum academic requirements of the honors core curriculum for the B.A. and B.S.W. degree programs. The university/state minimum core is fulfilled by completing the college honors core.

### Honors Core Curriculum

#### Humanities and Social Sciences Option 1

**Core – 27 hours; 15 hours must be at honors level**

##### World Civilization

HIST 1113H	Honors Institutions and Ideas of World Civilizations I (Irregular)	3
or HIST 1113	Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)	
HIST 1123H	Honors Institutions and Ideas of World Civilizations II (Irregular)	3
or HIST 1123	Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)	

##### World Literature

WLIT 1113H	Honors World Literature I (Sp, Su, Fa)	3
or WLIT 1113	World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)	

Select one of the following: 3

WLIT 1123H	Honors World Literature II (Sp, Su, Fa)	3
or WLIT 1123	World Literature II (ACTS Equivalency = ENGL 2123) (Sp, Su, Fa)	

##### World Language Literature Course

Any other WLIT Course

CLST 1003H	Honors Introduction to Classical Studies: Greece (Odd years, Fa)	3
or CLST 100	Introduction to Classical Studies: Greece (Odd years, Fa)	

CLST 1013H	Honors Introduction to Classical Studies: Rome (Even years, Sp)	3
or CLST 1013	Introduction to Classical Studies: Rome (Even years, Sp)	

##### Philosophy

PHIL 2003H	Honors Introduction to Philosophy (Sp, Su, Fa)	3
or PHIL 2003	Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)	

##### Fine Arts

Select two of the following: 6

ARCH 1003H	Honors Basic Course in the Arts: Architecture Lecture (Fa)	3
or ARCH 100	Basic Course in the Arts: Architecture Lecture (Sp, Fa)	

ARHS 1003H	Honors Basic Course in the Arts: Art Lecture (Irregular)	3
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or ARHS 1003	Basic Course in the Arts: Art Lecture (ACTS Equivalency = ARTA 1003) (Sp, Su, Fa)	
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COMM 1003H	Honors Basic Course in the Arts: Film Lecture (Sp, Su, Fa)	3
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or COMM 1003	Basic Course in the Arts: Film Lecture (Sp, Su, Fa)	
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DANC 1003H	Honors Basic Course in the Arts: Movement and Dance (Sp, Su, Fa)	3
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or DANC 1003	Basic Course in the Arts: Movement and Dance (Sp, Su, Fa)	
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MLIT 1003H	Honors Experiencing Music (Sp, Fa)	3
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or MLIT 1003	Experiencing Music (ACTS Equivalency = MUSC 1003) (Sp, Su, Fa)	
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or MLIT 101	Honors Music and Society (Sp, Fa)	
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or MLIT 101	Music and Society (Sp, Fa)	
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THTR 1003H	Honors Basic Course in the Arts: Theatre Appreciation (Sp, Fa)	3
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or THTR 1003	Basic Course in the Arts: Theatre Appreciation (ACTS Equivalency = DRAM 1003) (Sp, Su, Fa)	
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THTR 1013	Musical Theatre Appreciation (Sp, Fa)	3
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##### Social Sciences

Select two of the following: 6

ANTH 1023H	Honors Introduction to Cultural Anthropology (Sp, Fa)	3
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or ANTH 1023	Introduction to Cultural Anthropology (ACTS Equivalency = ANTH 2013) (Sp, Su, Fa)	
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ECON 2013H	Honors Principles of Macroeconomics (Fa)	3
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or ECON 2013	Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)	
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ECON 2023H	Honors Principles of Microeconomics (Sp)	3
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or ECON 2023	Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)	
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ECON 2143H	Honors Basic Economics: Theory and Practice (Sp, Su, Fa)	3
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or ECON 2143	Basic Economics: Theory and Practice (Sp, Su, Fa)	
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GEOS 2003H	Honors World Regional Geography (Sp, Fa)	3
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or GEOS 2003	World Regional Geography (ACTS Equivalency = GEOG 2103) (Sp, Fa)	
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PSYC 2003H	Honors General Psychology (Sp, Fa)	3
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or PSYC 2003	General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)	
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SOCI 2013H	Honors General Sociology (Sp, Su, Fa)	3
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or SOCI 2013	General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa)	
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Total Hours 27

**Humanities and Social Sciences Option 2**

**Core – 28 hours; 15 hours must be at honors level**

HUMN 1114H	Honors Roots of Culture to 500 C.E. (Fa)	4
HUMN 1124H	Honors Equilibrium of Cultures 500-1600 (Sp)	4
HUMN 2114H	Honors Birth of Modern Culture 1600-1900 (Fa)	4

**World Literature**

Select one of the following: 3

WLIT 1123H	Honors World Literature II (Sp, Su, Fa)	
	or WLIT 112 World Literature II (ACTS Equivalency = ENGL 2123) (Sp, Su, Fa)	

World Language Literature Course

Any other WLIT Course

CLST 1003H	Honors Introduction to Classical Studies: Greece (Odd years, Fa)	
	or CLST 1008 Introduction to Classical Studies: Greece (Odd years, Fa)	

CLST 1013H	Honors Introduction to Classical Studies: Rome (Even years, Sp)	
	or CLST 101 Introduction to Classical Studies: Rome (Even years, Sp)	

**Philosophy**

PHIL 2003H	Honors Introduction to Philosophy (Sp, Su, Fa)	3
	or PHIL 2003 Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)	

**Fine Arts**

Select one of the following: 3

ARCH 1003H	Honors Basic Course in the Arts: Architecture Lecture (Fa)	
	or ARCH 1003 Basic Course in the Arts: Architecture Lecture (Sp, Fa)	

ARHS 1003H	Honors Basic Course in the Arts: Art Lecture (Irregular)	
	or ARHS 1003 Basic Course in the Arts: Art Lecture (ACTS Equivalency = ARTA 1003) (Sp, Su, Fa)	

COMM 1003H	Honors Basic Course in the Arts: Film Lecture (Sp, Su, Fa)	
	or COMM 1003 Basic Course in the Arts: Film Lecture (Sp, Su, Fa)	

DANC 1003H	Honors Basic Course in the Arts: Movement and Dance (Sp, Su, Fa)	
	or DANC 1003 Basic Course in the Arts: Movement and Dance (Sp, Su, Fa)	

MLIT 1003H	Honors Experiencing Music (Sp, Fa)	
	or MLIT 1003 Experiencing Music (ACTS Equivalency = MUSC 1003) (Sp, Su, Fa)	
	or MLIT 1013 Honors Music and Society (Sp, Fa)	
	or MLIT 1013 Music and Society (Sp, Fa)	

THTR 1003H	Honors Basic Course in the Arts: Theatre Appreciation (Sp, Fa)	
	or THTR 1003 Basic Course in the Arts: Theatre Appreciation (ACTS Equivalency = DRAM 1003) (Sp, Su, Fa)	

THTR 1013 Musical Theatre Appreciation (Sp, Fa)

**Social Sciences**

Select two of the following: 6

ANTH 1023H	Honors Introduction to Cultural Anthropology (Sp, Fa)	
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	or ANTH 1023 Introduction to Cultural Anthropology (ACTS Equivalency = ANTH 2013) (Sp, Su, Fa)	
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ECON 2013H	Honors Principles of Macroeconomics (Fa)	
	or ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)	

ECON 2023H	Honors Principles of Microeconomics (Sp)	
	or ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)	

ECON 2143H	Honors Basic Economics: Theory and Practice (Sp, Su, Fa)	
	or ECON 2143 Basic Economics: Theory and Practice (Sp, Su, Fa)	

GEOS 2003H	Honors World Regional Geography (Sp, Fa)	
	or GEOS 2003 World Regional Geography (ACTS Equivalency = GEOG 2103) (Sp, Fa)	

PSYC 2003H	Honors General Psychology (Sp, Fa)	
	or PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)	

SOCI 2013H	Honors General Sociology (Sp, Su, Fa)	
	or SOCI 201 General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa)	

Total Hours 27

**Students pursuing either option must also complete the following:**

**English**

ENGL 1013H	Honors Composition I (Fa)	3
	or ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	

ENGL 1023H	Honors Composition II (Sp)	3
	or ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)	

**US History/American National Government**

HIST 2003	History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)	3
	or HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)	
	or PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)	
	or PLSC 2003H Honors American National Government (Fa)	

Honors Colloquia--one from each approved area. No more than 3 hours of required colloquia may be earned either abroad or in an intersession.

**Humanities Colloquium**

**Social Science Colloquium**

**Natural Science or Math Colloquium**

**World Language 0-12**

See your adviser. Students must demonstrate proficiency in a single modern or classical language other than English (2013 Intermediate II of a world language). Usually this is accomplished by completing a sequence of world language courses (1003, 1013, 2003, 2013). See Fulbright College Admission Requirements. Students meeting the normal admission standard (two years of high school language) may expect to satisfy this requirement with fewer courses, depending upon placement. In cases of unusually thorough preparation, or in the case of international students, exemption may be sought from the department of world languages.

**Natural Science and Mathematics**

15-17

Core – 15-17 hours; 8 hours must be at honors level

**Natural Sciences (12 hours)**

At least 4 hours must be chosen from biological and 4 hours from physical

**Biological Sciences**

ANTH 1013H Honors Introduction to Biological Anthropology (Fa)  
& ANTH 1011M and Honors Introduction to Biological Anthropology Laboratory (Fa)

or ANTH 101 Introduction to Biological Anthropology (Sp, Su)  
& ANTH 101 and Introduction to Biological Anthropology Laboratory (Fa)

BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL  
& BIOL 1541M 1014 Lecture) (Sp, Su, Fa)  
and Honors Principles of Biology Laboratory (Sp,  
Fa)

or BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014  
& BIOL 1541 Lecture) (Sp, Su, Fa)  
and Principles of Biology Laboratory (ACTS  
Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)

BIOL 1584 Biology for Majors (Sp, Fa)<sup>1</sup>

BIOL 1603 Principles of Zoology (ACTS Equivalency = BIOL  
& BIOL 1601M 1054 Lecture) (Su, Fa)  
and Honors Principles of Zoology Laboratory (Fa)

or BIOL 1603 Principles of Zoology (ACTS Equivalency = BIOL 1054  
& BIOL 1601 Lecture) (Su, Fa)  
and Principles of Zoology Laboratory (ACTS  
Equivalency = BIOL 1054 Lab) (Su, Fa)

BIOL 1613 Plant Biology (ACTS Equivalency = BIOL 1034  
& BIOL 1611M Lecture) (Sp, Su)  
and Honors Plant Biology Laboratory (Sp)

or BIOL 1613 Plant Biology (ACTS Equivalency = BIOL 1034  
& BIOL 1611 Lecture) (Sp, Su)  
and Plant Biology Laboratory (ACTS Equivalency =  
BIOL 1034 Lab) (Sp, Su)

BIOL 2013 General Microbiology (ACTS Equivalency = BIOL  
& BIOL 2011M 2004 Lecture) (Sp, Su, Fa)  
and Honors General Microbiology Laboratory (Sp,  
Su, Fa)

or BIOL 2013 General Microbiology (ACTS Equivalency = BIOL 2004  
& BIOL 2011 Lecture) (Sp, Su, Fa)  
and General Microbiology Laboratory (ACTS  
Equivalency = BIOL 2004 Lab) (Sp, Su, Fa)

**Physical Sciences**

ASTR 2003H Honors Survey of the Universe (Fa)  
& ASTR 2001M and Honors Survey of the Universe Laboratory (Fa)

or ASTR 2003 Survey of the Universe (ACTS Equivalency = PHSC  
& ASTR 2001M 1204 Lecture) (Sp, Su, Fa)  
and Survey of the Universe Laboratory (ACTS  
Equivalency = PHSC 1204 Lab) (Sp, Su, Fa)

CHEM 1103 University Chemistry I (ACTS Equivalency =  
& CHEM 1101L CHEM 1414 Lecture) (Su, Fa)  
and University Chemistry I Laboratory (ACTS  
Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)

CHEM 1123H Honors University Chemistry II (Sp, Fa)  
& CHEM 1121M and Honors University Chemistry II Laboratory (Sp,  
Fa)

or CHEM 1123 University Chemistry II (ACTS Equivalency = CHEM  
& CHEM 1121M 1424 Lecture) (Sp, Su, Fa)  
and University Chemistry II Laboratory (ACTS  
Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)

GEOS 1113H Honors General Geology (Irregular)  
& GEOS 1111M and Honors General Geology Laboratory (Fa)  
or GEOS 111 General Geology (ACTS Equivalency = GEOL 1114  
& GEOS 111 Lecture) (Sp, Su, Fa)  
and General Geology Laboratory (ACTS Equivalency =  
GEOL 1114 Lab) (Sp, Su, Fa)

PHYS 1023H Honors Physics and Human Affairs (Sp, Su, Fa)  
& PHYS 1021M and Honors Physics and Human Affairs Laboratory  
(Sp, Su, Fa)  
or PHYS 1023 Physics and Human Affairs (Sp, Su, Fa)  
& PHYS 1021M and Physics and Human Affairs Laboratory (Sp, Su,  
Fa)

GEOS 1133 Earth Science (ACTS Equivalency = GEOL 1124  
& GEOS 1131L Lecture) (Sp, Fa)  
and Earth Science Laboratory (ACTS Equivalency  
= GEOL 1124 Lab) (Sp, Fa)

PHYS 2054H Honors University Physics I (Sp, Su, Fa) (with lab)  
or PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034)  
(Sp, Su, Fa)

PHYS 2074H Honors University Physics II (Sp) (with lab)  
or PHYS 2074 University Physics II (ACTS Equivalency = PHYS 2044  
Lecture) (Sp, Su, Fa)

**Mathematics (3-5 hours)**

MATH 2033 Mathematical Thought (Sp, Su, Fa)  
or MATH 2033 Mathematical Thought (Sp, Su, Fa)  
& MATH 2033 and Honors Mathematical Thought Lab (Sp, Fa)

MATH 2043 Survey of Calculus (ACTS Equivalency = MATH  
2203) (Sp, Su, Fa)

MATH 2053 Finite Mathematics (Sp, Su, Fa)

MATH 2183 Mathematical Reasoning in a Quantitative World  
(Sp, Fa)

MATH 2445 Calculus I with Review (Sp, Su, Fa)

MATH 2554H Honors Calculus I (Sp, Fa)  
or MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su,  
Fa)

MATH 2564H Honors Calculus II (Sp)  
or MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su,  
Fa)

MATH 2574H Honors Calculus III (Sp, Fa)  
or MATH 2574 Calculus III (ACTS Equivalency = MATH 2603) (Sp,  
Su, Fa)

STAT 2303 Principles of Statistics (ACTS Equivalency = MATH  
2103) (Sp, Su, Fa)

Total Hours

33-47

<sup>1</sup> This science course is applied as honors credit for Fulbright College Honors.

**Bachelor of Science Degree**

Requirements for graduating with honors: Specific academic requirements including course work, participation in departmental honors colloquia or seminars, and independent study projects are established by the faculty of the individual departments or study areas and are approved

by the Honors Council. However, all honors students must have a 3.5 cumulative grade-point average, complete and defend an honors thesis, and take 12 hours (which may include six hours of thesis) in Honors Studies. Information concerning these requirements is given within each department's catalog listings.

The following outlines the minimum academic requirements of the honors core curriculum for the B.S degree program. The university/state minimum core is fulfilled by completing the college honors core.

## Honors Core Curriculum

### Humanities and Social Sciences Option 1

Core – 18 hours; 9 hours must be at honors level

#### World Civilization

HIST 1113H	Honors Institutions and Ideas of World Civilizations I (Irregular)	3
or HIST 1113	Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)	
HIST 1123H	Honors Institutions and Ideas of World Civilizations II (Irregular)	3
or HIST 1123	Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)	

#### Fine Arts/World Literature/Philosophy

Nine hours selected from two different areas. 9

##### At least one course must be from fine arts.

##### Fine Arts

ARCH 1003H	Honors Basic Course in the Arts: Architecture Lecture (Fa)	
or ARCH 1003	Basic Course in the Arts: Architecture Lecture (Sp, Fa)	
ARHS 1003H	Honors Basic Course in the Arts: Art Lecture (Irregular)	
or ARCH 1003	Basic Course in the Arts: Architecture Lecture (Sp, Fa)	
COMM 1003H	Honors Basic Course in the Arts: Film Lecture (Sp, Su, Fa)	
or COMM 1003	Basic Course in the Arts: Film Lecture (Sp, Su, Fa)	
DANC 1003H	Honors Basic Course in the Arts: Movement and Dance (Sp, Su, Fa)	
or DANC 1003	Basic Course in the Arts: Movement and Dance (Sp, Su, Fa)	
MLIT 1003H	Honors Experiencing Music (Sp, Fa)	
or MLIT 1003	Experiencing Music (ACTS Equivalency = MUSC 1003) (Sp, Su, Fa)	
or MLIT 101	Honors Music and Society (Sp, Fa)	
or MLIT 101	Music and Society (Sp, Fa)	
THTR 1003H	Honors Basic Course in the Arts: Theatre Appreciation (Sp, Fa)	
or THTR 1003	Basic Course in the Arts: Theatre Appreciation (ACTS Equivalency = DRAM 1003) (Sp, Su, Fa)	
THTR 1013	Musical Theatre Appreciation (Sp, Fa)	

##### World Literature

WLIT 1113H	Honors World Literature I (Sp, Su, Fa)	
or WLIT 1113	World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)	
WLIT 1123H	Honors World Literature II (Sp, Su, Fa)	
or WLIT 1123	World Literature II (ACTS Equivalency = ENGL 2123) (Sp, Su, Fa)	

#### World Language Literature Course

Any Other WLIT Course

CLST 1003H	Honors Introduction to Classical Studies: Greece (Odd years, Fa)	
or CLST 1003	Introduction to Classical Studies: Greece (Odd years, Fa)	
CLST 1013H	Honors Introduction to Classical Studies: Rome (Even years, Sp)	
or CLST 1013	Introduction to Classical Studies: Rome (Even years, Sp)	

#### Philosophy

PHIL 2003H	Honors Introduction to Philosophy (Sp, Su, Fa)	
or PHIL 2003	Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)	

#### Social Sciences

Select one of the following: 3

ANTH 1023H	Honors Introduction to Cultural Anthropology (Sp, Fa)	
or ANTH 1023	Introduction to Cultural Anthropology (ACTS Equivalency = ANTH 2013) (Sp, Su, Fa)	
ECON 2013H	Honors Principles of Macroeconomics (Fa)	
or ECON 2013	Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)	
ECON 2023H	Honors Principles of Microeconomics (Sp)	
or ECON 2023	Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)	
ECON 2143H	Honors Basic Economics: Theory and Practice (Sp, Su, Fa)	
or ECON 2143	Basic Economics: Theory and Practice (Sp, Su, Fa)	
GEOS 2003H	Honors World Regional Geography (Sp, Fa)	
or GEOS 2003	World Regional Geography (ACTS Equivalency = GEOG 2103) (Sp, Fa)	
PSYC 2003H	Honors General Psychology (Sp, Fa)	
or PSYC 2003	General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)	
SOCI 2013H	Honors General Sociology (Sp, Su, Fa)	
or SOCI 2013	General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa)	

Total Hours 18

### Humanities and Social Sciences Option 2

Core – 18 hours; 12 hours must be at honors level

HUMN 1114H		4
HUMN 1124H		4
HUMN 2114H		4

#### Fine Arts

Select one of the following: 3

ARCH 1003H	Honors Basic Course in the Arts: Architecture Lecture (Fa)	
or ARCH 1003	Basic Course in the Arts: Architecture Lecture (Sp, Fa)	
ARHS 1003H	Honors Basic Course in the Arts: Art Lecture (Irregular)	
or ARHS 1003	Basic Course in the Arts: Art Lecture (ACTS Equivalency = ARTA 1003) (Sp, Su, Fa)	

COMM 1003H	Honors Basic Course in the Arts: Film Lecture (Sp, Su, Fa)	
	or COMM 1003 Basic Course in the Arts: Film Lecture (Sp, Su, Fa)	
DANC 1003H	Honors Basic Course in the Arts: Movement and Dance (Sp, Su, Fa)	
	or DANC 1003 Basic Course in the Arts: Movement and Dance (Sp, Su, Fa)	
MLIT 1003H	Honors Experiencing Music (Sp, Fa)	
	or MLIT 100: Experiencing Music (ACTS Equivalency = MUSC 1003) (Sp, Su, Fa)	
	or MLIT 101: Honors Music and Society (Sp, Fa)	
	or MLIT 101: Music and Society (Sp, Fa)	
THTR 1003H	Honors Basic Course in the Arts: Theatre Appreciation (Sp, Fa)	
	or THTR 1003 Basic Course in the Arts: Theatre Appreciation (ACTS Equivalency = DRAM 1003) (Sp, Su, Fa)	
THTR 1013	Musical Theatre Appreciation (Sp, Fa)	
<b>Social Science</b>		
Select one of the following:		3
ANTH 1023H	Honors Introduction to Cultural Anthropology (Sp, Fa)	
	or ANTH 1023 Introduction to Cultural Anthropology (ACTS Equivalency = ANTH 2013) (Sp, Su, Fa)	
ECON 2013H	Honors Principles of Macroeconomics (Fa)	
	or ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)	
ECON 2023	Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)	
	or ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)	
ECON 2143H	Honors Basic Economics: Theory and Practice (Sp, Su, Fa)	
	or ECON 2143 Basic Economics: Theory and Practice (Sp, Su, Fa)	
GEOS 2003H	Honors World Regional Geography (Sp, Fa)	
	or GEOS 2003 World Regional Geography (ACTS Equivalency = GEOG 2103) (Sp, Fa)	
PSYC 2003H	Honors General Psychology (Sp, Fa)	
	or PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)	
SOCI 2013H	Honors General Sociology (Sp, Su, Fa)	
	or SOCI 2013 General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa)	
Total Hours		18

**Students pursuing either option must also complete the following:**

**English**

ENGL 1013H	Honors Composition I (Fa)	3
	or ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	
ENGL 1023H	Honors Composition II (Sp)	3
	or ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)	

**U.S. History/American National Government**

HIST 2003	History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)	3
	or HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)	
	or PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)	
	or PLSC 2003H Honors American National Government (Fa)	
Honors Colloquium – one from each approved area. No more than 3 hours of required colloquia may be earned either abroad or in an intersession.		9
Humanities Colloquium		
Social Science Colloquium		
Natural Science or Math Colloquium		
<b>Natural Sciences and Mathematics</b>		
Core – 20-21 hours; 16 hours must be at honors level		
Complete sixteen honors hours from at least two of the five different areas below. At least one class from Area 5 is required, although not necessarily at the Honors level.		
<b>Natural Sciences</b>		16
<b>Area 1</b>		
ASTR 2003H	Honors Survey of the Universe (Fa)	
	& ASTR 2001M Honors Survey of the Universe Laboratory (Fa)	
PHYS 2054H	Honors University Physics I (Sp, Su, Fa) (PHYS 2054H(M))	
	PHYS 2074H Honors University Physics II (Sp) (PHYS 2074H(M))	
<b>Area 2</b>		
ANTH 1013H	Honors Introduction to Biological Anthropology (Fa)	
	& ANTH 1011M Honors Introduction to Biological Anthropology Laboratory (Fa)	
BIOL 1543	Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa)	
	and Honors Principles of Biology Laboratory (Sp, Fa)	
BIOL 1584	Biology for Majors (Sp, Fa) <sup>1</sup>	
BIOL 1603	Principles of Zoology (ACTS Equivalency = BIOL 1054 Lecture) (Su, Fa)	
	and Honors Principles of Zoology Laboratory (Fa)	
BIOL 1613	Plant Biology (ACTS Equivalency = BIOL 1034 & BIOL 1611M Lecture) (Sp, Su)	
	and Honors Plant Biology Laboratory (Sp)	
BIOL 2013	General Microbiology (ACTS Equivalency = BIOL 2004 Lecture) (Sp, Su, Fa)	
	and Honors General Microbiology Laboratory (Sp, Su, Fa)	
<b>Area 3</b>		
CHEM 1103	University Chemistry I (ACTS Equivalency = & CHEM 1101L CHEM 1414 Lecture) (Su, Fa)	
	and University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)	
CHEM 1123H	Honors University Chemistry II (Sp, Fa)	
	& CHEM 1121M Honors University Chemistry II Laboratory (Sp, Fa)	
CHEM 1203	Chemistry for Majors I (Fa)	
	& CHEM 1201L Land Chemistry for Majors I Laboratory (Fa) <sup>1</sup>	
CHEM 1223	Chemistry for Majors II (Sp)	
	& CHEM 1221L Land Chemistry for Majors II Laboratory (Sp) <sup>1</sup>	

CHEM 3603H Honors Organic Chemistry I (Su, Fa)  
& CHEM 3602Mand Honors Organic Chemistry I Laboratory (Su, Fa)

CHEM 3703 Organic Chemistry I Lecture for Chemistry Majors  
& CHEM 3702L (Fa)  
and Organic Chemistry I Lab for Chemistry Majors (Fa)<sup>1</sup>

CHEM 3613H Honors Organic Chemistry II (Sp, Su)  
& CHEM 3612Mand Honors Organic Chemistry II Laboratory (Sp, Su)

CHEM 3713 Organic Chemistry II Lecture for Chemistry Majors  
& CHEM 3712L (Sp)  
and Organic Chemistry II Lab for Chemistry Majors (Sp)<sup>1</sup>

#### Area 4

GEOS 1113H Honors General Geology (Irregular)  
& GEOS 1111Mand Honors General Geology Laboratory (Fa)  
GEOS 1133 Earth Science (ACTS Equivalency = GEOL 1124  
& GEOS 1131LLecture) (Sp, Fa)  
and Earth Science Laboratory (ACTS Equivalency = GEOL 1124 Lab) (Sp, Fa)

#### Mathematics 4-5

MATH 2445 Calculus I with Review (Sp, Su, Fa)

MATH 2554H Honors Calculus I (Sp, Fa)  
or MATH 2555: Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)

MATH 2564H Honors Calculus II (Sp)  
or MATH 2565: Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa)

MATH 2574H Honors Calculus III (Sp, Fa)  
or MATH 2575: Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa)

#### World Language: (depending upon placement) 0-9

See your adviser. Students must demonstrate proficiency in a single modern or classical language other than English (2003 Intermediate I of a world language). Usually this is accomplished by completing a sequence of courses (1003, 1013, and 2003). See Fulbright College Admission Requirements. Students meeting the normal admission standard (two years of high school language) may expect to satisfy this requirement with fewer courses, depending upon placement. In cases of unusually thorough preparation, or in the case of international students, exemption may be sought from the department of world languages.

Total Hours 38-48

<sup>1</sup> This science course is applied as honors credit for Fulbright College Honors.

## Bachelor of Music Degree

Requirements for graduating with honors: Specific academic requirements including course work, participation in departmental honors colloquia or seminars, and independent study projects are established by the faculty of the individual departments or study areas and are approved by the Honors Council.

All honors students must have a 3.5 cumulative grade-point average, complete and defend an honors thesis, and take 12 hours (which may

include six hours of thesis) in Honors Studies. Information concerning these requirements is given within each department's catalog listings.

The following outlines the minimum academic requirements of the honors core curriculum for the B.F.A. degree program. The university/state minimum core is fulfilled by completing the college honors core.

## Honors Core Curriculum

### Humanities Option 1

#### World Civilization

HIST 1113H Honors Institutions and Ideas of World Civilizations I (Irregular) 3

HIST 1123H Honors Institutions and Ideas of World Civilizations II (Irregular) 3

#### World Literature

WLIT 1113H Honors World Literature I (Sp, Su, Fa) 3

#### Fine Arts

MLIT 1013H Honors Music and Society (Sp, Fa) 3

**Colloquium in Humanities**<sup>1</sup> 3

Course offerings vary each semester.

Total Hours 15

### Humanities Option 2

#### Honors Roots of Culture

HUMN 1114H Honors Roots of Culture to 500 C.E. (Fa) 4

HUMN 1124H Honors Equilibrium of Cultures 500-1600 (Sp) 4

HUMN 2114H Honors Birth of Modern Culture 1600-1900 (Fa) 4

#### Fine Arts

MLIT 1013H Honors Music and Society (Sp, Fa) 3

#### Colloquium

Humanities Colloquium<sup>1</sup> 3

Total Hours 18

**Students pursuing either option must also complete the following:**

#### English

ENGL 1013H Honors Composition I (Fa) 3  
or ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)

ENGL 1023H Honors Composition II (Sp) 3  
or ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)

#### U.S. History/American National Government

HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa) 3

or HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)

or PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)

or PLSC 2003H Honors American National Government (Fa)

#### World Language: (depending upon placement) 0-6

See your adviser. Typically this is satisfied by completion of a 1013 Elementary II world language course.

#### Social Science 3

Select one of the following:

ANTH 1023H	Honors Introduction to Cultural Anthropology (Sp, Fa)	
ECON 2013H	Honors Principles of Macroeconomics (Fa)	
ECON 2023H	Honors Principles of Microeconomics (Sp)	
ECON 2143H	Honors Basic Economics: Theory and Practice (Sp, Su, Fa)	
GEOS 2003H	Honors World Regional Geography (Sp, Fa)	
PSYC 2003H	Honors General Psychology (Sp, Fa)	
SOCI 2013H	Honors General Sociology (Sp, Su, Fa)	
<b>Colloquia in Social Sciences</b> <sup>1</sup>		3
Course offerings vary each semester. See adviser.		
<b>Natural Sciences</b>		8
Eight hours of honors credit to be chosen from the lab sciences. See adviser for specific science course listing.		
<b>Mathematics</b>		3-5
Fulbright Scholars must fulfill the math requirement with one of the following:		
MATH 2043	Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)	
MATH 2053	Finite Mathematics (Sp, Su, Fa)	
MATH 2183	Mathematical Reasoning in a Quantitative World (Sp, Fa)	
MATH 2445	Calculus I with Review (Sp, Su, Fa)	
MATH 2554	Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	
STAT 2303	Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)	
<b>Total Hours</b>		26-34

<sup>1</sup> No more than a total of 3 hours of required colloquia may be earned either abroad or in an intersession.

## Bachelor of Fine Arts Degree

Specific academic requirements including course work, participation in departmental honors colloquia or seminars, and independent study projects are established by the faculty of the individual departments or study areas and are approved by the Honors Council. All honors students must have a 3.5 cumulative grade-point average, complete and defend an honors thesis, and take 12 hours (which may include six hours of thesis) in Honors Studies. Information concerning these requirements is given within each department's catalog listings.

The following outlines the minimum academic requirements of the honors core curriculum for the B.F.A. degree program. The university/state minimum core is fulfilled by completing the college honors core.

## Honors Core Curriculum

### Humanities Option 1

#### World Civilization

HIST 1113H		3
HIST 1123H		3

#### World Literature

WLIT 1113H	Honors World Literature I (Sp, Su, Fa)	3
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#### Fine Arts, World Literature II, and Philosophy

Select two of the following from two different areas:

#### Fine Arts

COMM 1003H	Honors Basic Course in the Arts: Film Lecture (Sp, Su, Fa)	
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DANC 1003H	Honors Basic Course in the Arts: Movement and Dance (Sp, Su, Fa)	
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MLIT 1003H	Honors Experiencing Music (Sp, Fa)	
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THTR 1003H	Honors Basic Course in the Arts: Theatre Appreciation (Sp, Fa)	
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#### Philosophy

PHIL 2003H	Honors Introduction to Philosophy (Sp, Su, Fa)	
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#### World Literature II

WLIT 1123H	Honors World Literature II (Sp, Su, Fa)	
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### Colloquium in Humanities<sup>1</sup>

Course offerings vary each semester.

<b>Total Hours</b>		18
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### Humanities Option 2

#### Honors Roots of Culture

HUMN 1114H	Honors Roots of Culture to 500 C.E. (Fa)	4
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HUMN 1124H	Honors Equilibrium of Cultures 500-1600 (Sp)	4
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HUMN 2114H	Honors Birth of Modern Culture 1600-1900 (Fa)	4
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#### Philosophy and Humanities

PHIL 2003H	Honors Introduction to Philosophy (Sp, Su, Fa)	3
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Humanities Colloquium – course offerings vary each semester. <sup>1</sup>		3
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<b>Total Hours</b>		18
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**Students pursuing either option must also complete the following:**

#### English

ENGL 1013H	Honors Composition I (Fa)	3
or ENGL 1013	Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	

ENGL 1023H	Honors Composition II (Sp)	3
or ENGL 1023	Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)	

#### U.S. History/American National Government

HIST 2003	History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)	3
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or HIST 2013	History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)	
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or PLSC 2003	American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)	
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or PLSC 2003H	Honors American National Government (Fa)	
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#### World Language: (depending on placement)

See your adviser. (This is usually accomplished by successful completion of a 2003 Intermediate I world language course.)

#### Social Science

ANTH 1023H	Honors Introduction to Cultural Anthropology (Sp, Fa)	
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ECON 2013H	Honors Principles of Macroeconomics (Fa)	
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ECON 2023H	Honors Principles of Microeconomics (Sp)	
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ECON 2013 & ECON 2023	Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)	
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	and Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)	
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ECON 2143H	Honors Basic Economics: Theory and Practice (Sp, Su, Fa)	
GEOS 2003H	Honors World Regional Geography (Sp, Fa)	
PSYC 2003H	Honors General Psychology (Sp, Fa)	
SOCI 2013H	Honors General Sociology (Sp, Su, Fa)	
<b>Colloquia in Social Sciences</b> <sup>1</sup>		3
<b>Natural Science</b>		8
Eight hours of honors to be chosen from lab sciences. See adviser for specific science course listing.		
<b>Mathematics</b>		3-5
Select one of the following:		
MATH 2043	Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)	
MATH 2053	Finite Mathematics (Sp, Su, Fa)	
MATH 2183	Mathematical Reasoning in a Quantitative World (Sp, Fa)	
MATH 2445	Calculus I with Review (Sp, Su, Fa)	
MATH 2554	Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	
STAT 2303	Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)	
Total Hours		26-37

<sup>1</sup> No more than a total of 3 hours of required colloquia may be earned either abroad or in an intersession.

## African and African American Studies (AAST)

### Faculty

**Caree A. Banton**, Assistant Professor  
**Todd Cleveland**, Assistant Professor  
**JoAnn D'Alisera**, Associate Professor  
**Pearl Karen Dowe**, Associate Professor  
**Jim Gigantino II**, Associate Professor  
**Brandon Jackson**, Assistant Professor  
**Yvette Murphy-Erby**, Professor  
**Charles F. Robinson II**, Professor  
**Valandra**, Assistant Professor  
**Calvin White Jr.**, Associate Professor

Pearl K. Dowe and Yvette Murphy-Erby  
 Interim Co-Program Directors  
 230 Memorial Hall  
 479-575-3001  
<http://aast.uark.edu>

The African and African American Studies (AAST) program promotes an interdisciplinary approach to the study of the history, culture, and identity of Africans and African Americans. Students may pursue African and African American Studies as a second major alongside a primary major in Fulbright College. Students in any college may declare a minor. Advice on suitable primary majors to be taken with an AAST second major may be obtained from the AAST Program Director.

## Requirements for a Second Major in African and African American Studies:

A total of 21 hours in African and African American Studies courses in addition to the requirements for the departmental major including the following:

### Requirement 1

AAST 1003	Introduction to African and African American Studies (Sp, Fa)	3
	or AAST 2023 The African American Experience (Sp, Su, Fa)	

### Requirement 2

Select one of the following:		3
AAST 3233/HIST 3233	African American History to 1877	
AAST 3243/HIST 3243	African American History Since 1877	
AAST 3253/HIST 3253	The History of Sub-Saharan Africa	
AAST 3293/PLSC 3293	African American Politics	
AAST 3853/ENGL 3853	Topics in African American Literature and Culture	
AAST 4153/SOCI 4153	Race and Society	

### Requirement 3

Fifteen hours from the following courses under the following conditions:		15
a. A maximum of nine of the fifteen hours may come from courses taken in any one department		
b. At least six hours must be at the 4000 level or above		
AAST 3023	African Americans in Sport (Sp, Su, Fa)	
AAST 3123	African American Students in Higher Education (Irregular)	
AAST 3923H	Honors Colloquium (Irregular)	
AAST 399VH	Honors African & African American Studies Thesis (Sp, Su, Fa)	
AAST 4003	African & African American Studies Study Abroad (Even years, Su)	
AAST 4003H	Honors African & African American Studies Study Abroad (Even years, Su)	
AAST 489V	African & African American Independent Study (Irregular)	
AAST 499V	African and African American Studies Seminar (Sp, Su, Fa)	
ANTH/AAST 4063	Women in Africa (Irregular)	
ANTH/AAST/WLLC 4073	African Sociolinguistics (Irregular)	
ANTH/AAST 4083	African Popular Culture (Irregular)	
ANTH 4513	African Religions: Gods, Witches, Ancestors (Irregular)	
ANTH 4583	Peoples and Cultures of Sub-Saharan Africa (Fa)	
ENGL/AAST 3853	Topics in African-American Literature and Culture (Irregular)	
ENGL/AAST 4853	Studies in African American Literature and Culture (Irregular)	
JOUR/AAST/COMM/ENGL 3263	African Americans in Film (Irregular)	



JOUR/AAST 4923	History of the Black Press (Even years, Sp)
HIST/AAST 3183	Popular Culture in the Caribbean (Irregular)
HIST/AAST 3193	The Making of the Modern Caribbean (Fa)
HIST/AAST 3233	African American History to 1877 (Sp, Fa)
HIST/AAST 3243	African American History Since 1877 (Sp, Fa)
HIST/AAST 3253	The History of Sub-Saharan Africa (Fa)
HIST/AAST 4093	The History of African Americans and Social Justice (Irregular)
HIST/AAST 4123	Africa and the Trans-Atlantic Slave Trade (Irregular)
HIST/AAST 4263	Independence and Africa Today (Sp)
HIST/AAST 4273	Comparative Slavery (Irregular)
HIST/AAST 4383	The American Civil Rights Movement (Irregular)
HIST/AAST 4483	African American Biographies (Irregular)
HIST/AAST 4563	The Old South, 1607-1865 (Odd years, Fa)
HIST/AAST 4573	The New South, 1860 to the Present (Even years, Fa)
HIST/AAST 4823	Black Freedom in the Age of Emancipation (Sp)
HIST/AAST 4953	The History of Sub-Saharan African Women (Irregular)
HIST/AAST 4963	Third World Underdevelopment and Modernization (Irregular)
PLSC/AAST 3283	Civil Rights Policy and Politics (Sp)
PLSC/AAST 3293	African American Politics (Fa)
PLSC/AAST 4323	Racial Identity, Politics, and Public Policy (Even years, Sp)
PLSC/AAST 4933	African American Political Ideology (Odd years, Sp)
SCWK/AAST 4163	African American Perspectives of Trauma, Loss, and Recovery (Fa)
SCWK/AAST 4173	Social Work with African American Families (Irregular)
SOCI/AAST 4153	Race and Society (Fa)
SWAH 1003	Elementary Swahili I (Irregular)
SWAH 1013	Elementary Swahili II (Irregular)
SWAH 1116	Intensive Swahili I (Irregular)
SWAH 2003	Intermediate Swahili I (Irregular)
SWAH 2013	Intermediate Swahili II (Irregular)
SWAH 2116	Intensive Swahili II (Irregular)
THTR/AAST 4463	African American Theatre History -- 1950 to Present (Sp)

WCOB 3033 The African American Experience in Business (Irregular)

ENGL 3853/AAST 3853, HIST 3233/AAST 3233, HIST 3243/AAST 3243, HIST 3253/AAST 3253, PLSC 3293/AAST 3293, or SOCI 4153/AAST 4153 may be used to satisfy Requirement 3 if not already used to satisfy Requirement 2.

Additional Special Topics and Independent Study courses may be used to satisfy this requirement if the courses have been approved by the AAST Director. Check the program website for a list of these approved courses.

Interested students or those wanting further information should consult with the African and African American Studies Director for selection of appropriate classes and for information on other courses that can apply to the major and/or minor.

### Requirements for a Minor in African and African American Studies:

A total of 15 hours in African and African American Studies courses in addition to the requirements for the departmental major including the following:

AAST 1003	Introduction to African and African American Studies (Sp, Fa)	3
	or AAST 2023 The African American Experience (Sp, Su, Fa)	
Select one of the following		3
AAST 3233/HIST 3233 or		
AAST 3243/HIST 3243 or		
AAST 3253/HIST 3253 or		
AAST 3293/PLSC 3293 or		
AAST 3853/ENGL 3853 or		
AAST 4153/SOCI 4153		
The remaining nine hours shall be selected from the courses listed in Requirement 3 of the Requirements for a Second Major in African American Studies. A maximum of six of the nine hours may be submitted from courses taken in any one department.		9
<hr/> Total Hours		<hr/> 15

Interested students or those wanting further information should consult with the African and African American Studies Director for selection of appropriate classes and for information on other courses that can apply to the major and/or minor.

### Requirements for Honors in African and African American Studies:

The Honors Program in African and African American Studies gives junior and senior students of high ability the opportunity to enroll in enriched courses and conduct independent research culminating in an honors thesis. In addition to satisfying the general Fulbright College requirements for graduation and the basic eligibility requirements for honors as established by the Honors Council, candidates for honors in African and African American Studies must complete 12 hours of honors credit in partial satisfaction of requirements for the co-major. One to six of these may be thesis hours (AAST 399VH). The remaining six hours must be relevant honors colloquia or graduate courses (with permission) in one of the departments contributing to this interdisciplinary area of study. The 12 hours of honors credit will satisfy elective requirements in co-major requirement three above. The thesis committee shall include at least two faculty members affiliated with African and African American Studies. Successful completion of these requirements will be recognized by the award of the distinction "African and African American Studies

Scholar Cum Laude" at graduation. Higher degree distinctions are recommended only in exceptional cases and are based upon the whole of the candidate's program of honors studies.

## Anthropology (ANTH) Faculty

**Jamie Brandon**, Associate Research Professor  
**JoAnn D'Alisera**, Associate Professor  
**Lucas Delezene**, Instructor  
**Kirstin C. Erickson**, Associate Professor  
**Lauren Miller Griffith**, Visiting Assistant Professor  
**Marvin Kay**, Professor  
**Kenneth L. Kvamme**, Professor  
**Christine Lee**, Assistant Professor  
**Fred Limp Jr.**, University Professor  
**Jonathan S. Marion**, Associate Professor  
**Venkatesan Ram Natarajan**, Assistant Professor  
**Justin Murphy Nolan**, Associate Professor  
**Joseph M. Plavcan**, Professor  
**Jerry Rose**, University Professor  
**George Sabo III**, Professor  
**Wesley Stoner**, Assistant Professor  
**Ted R. Swedenburg**, Professor  
**Claire E. Terhune**, Assistant Professor  
**Peter S. Ungar**, Distinguished Professor  
**Benjamin R. Vining**, Assistant Professor

Peter S. Ungar  
 Chair of the Department  
 330 Old Main  
 479-575-2508  
<http://anthropology.uark.edu>  
[anth@uark.edu](mailto:anth@uark.edu) ( [anth@uark.edu](mailto:anth@uark.edu))

Courses in anthropology provide an introduction to world peoples, their ways of living, and world views. Anthropology helps students to better understand human similarities and differences.

The Department of Anthropology offers both a Bachelor of Science and a Bachelor of Arts degree in anthropology.

The Bachelor of Science degree program is geared toward students with specializations in anthropological sciences. It is recommended for students planning to continue their education in basic or applied anthropological sciences in graduate or professional school. A B.S. degree in anthropology is also useful students planning to continue their education toward health or medical related careers.

The Bachelor of Arts degree program allows students to take additional coursework in any of four areas of focused study: archeology, biological anthropology, cartography/remote sensing/GIS, or cultural anthropology.

For the combined major in Anthropology and African and African American Studies, see the African and African American Studies (p. 198) listing.

For requirements for the M.A. and Ph.D. degrees in anthropology, see the Graduate School Catalog (<http://catalog.uark.edu/graduatecatalog/programsofstudy/anthropologyanth>).

## Bachelor of Science in Anthropology

The department of anthropology offers the Bachelor of Science degree in anthropology. The Bachelor of Science degree program is geared toward students with focused studies in anthropological sciences. It is recommended for students planning to continue their education in basic or applied anthropological sciences in graduate or professional school. A B.S. degree in anthropology is also useful students planning to continue their education toward health or medical related careers.

### Requirements for a B.S. Degree with a Major in Anthropology:

A minimum of 120 hours is required, including 57 hours specified as designated below.

#### Required Anthropology Core Courses:

ANTH 1013 & ANTH 1011L	Introduction to Biological Anthropology (Sp, Su) and Introduction to Biological Anthropology Laboratory (Fa)	4
ANTH 1023	Introduction to Cultural Anthropology (ACTS Equivalency = ANTH 2013) (Sp, Su, Fa)	3
ANTH 1033	Introduction to Archaeology (Sp, Fa)	3
ANTH 4013	History of Anthropological Thought (Fa)	3
Anthropology Electives:	18 hours selected from courses numbered 3000 or higher	18
Science	A minimum of 20 hours of electives from BIOL, CHEM, GEOL, and/or PHYS	20
Math: Minimum of 6 hours of math beyond College Algebra (MATH 1203) selected from among the following courses:		
MATH 1213	Plane Trigonometry (ACTS Equivalency = MATH 1203) (Sp, Su, Fa)	3
	or MATH 1284(Precalculus Mathematics (ACTS Equivalency = MATH 1305) (Sp, Su, Fa)	
MATH 2554	Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	4
MATH 2564	Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa)	4
	or STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)	

The following courses that are strongly recommended for those students pursuing a health or medical-related career:

ANTH 3423 & ANTH 3421L	Human Osteology (Sp) and Human Osteology Laboratory (Sp)	4
BIOL 1603 & BIOL 1601L	Principles of Zoology (ACTS Equivalency = BIOL 1054 Lecture) (Su, Fa) and Principles of Zoology Laboratory (ACTS Equivalency = BIOL 1054 Lab) (Su, Fa)	4
BIOL 2013 & BIOL 2011L	General Microbiology (ACTS Equivalency = BIOL 2004 Lecture) (Sp, Su, Fa) and General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa)	4
BIOL 2213 & BIOL 2211L	Human Physiology (ACTS Equivalency = BIOL 2414 Lecture) (Sp, Fa) and Human Physiology Laboratory (ACTS Equivalency = BIOL 2414 Lab) (Sp, Fa)	4
BIOL 2323 & BIOL 2321L	General Genetics (Sp, Fa) and General Genetics Laboratory (Sp, Fa)	4

BIOL 2443 & BIOL 2441L	Human Anatomy (ACTS Equivalency = BIOL 2404 Lecture) (Sp, Su, Fa) and Human Anatomy Laboratory (ACTS Equivalency = BIOL 2404 Lab) (Sp, Su, Fa)	4
BIOL 3023	Evolutionary Biology (Sp, Fa)	3
BIOL 3404	Comparative Vertebrate Morphology (Sp, Fa)	4
BIOL 4234	Comparative Physiology (Fa)	4
BIOL 4263	Cell Physiology (Fa)	3
BIOL 4713 & BIOL 4711L	Basic Immunology (Sp) and Basic Immunology Laboratory (Sp)	4
CHEM 3603 & CHEM 3601L	Organic Chemistry I (Su, Fa) and Organic Chemistry I Laboratory (Su, Fa)	4
CHEM 3813	Elements of Biochemistry (Sp, Su, Fa)	3

**Writing Requirement:** The Fulbright College research/analytical paper requirement for anthropology majors is fulfilled by completing an intensive writing requirement (15 pages) with a grade of "B" or higher in a successfully completed 4000-level ANTH course and with instructor approval.

## Anthropology B.S. Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

	Units	
	Fall	Spring
<b>First Year</b>		
ANTH 1013 Introduction to Biological Anthropology (Sp, Su) & ANTH 1011L Introduction to Biological Anthropology Laboratory (Fa)	4	
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
Select one of the following:	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)		
MATH 1284C Precalculus Mathematics (ACTS Equivalency = MATH 1305) (Sp, Su, Fa)		
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)		
ANTH 1023 Introduction to Cultural Anthropology (ACTS Equivalency = ANTH 2013) (Sp, Su, Fa)	3	
University/State Humanities or Fine Arts core requirement	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)	3	
MATH 1284C Precalculus Mathematics (ACTS Equivalency = MATH 1305) (Sp, Su, Fa) or MATH 2554 Calculus I <sup>1</sup>	4	
Science university/state core lecture and corequisite lab from BIOL, CHEM, GEOL or PHYS	4	
Select one of the following:	3	

HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)		
HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)		
PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)		
University/State Social Science Core Course		3
Year Total:	16	17

	Units	
	Fall	Spring
<b>Second Year</b>		
Select one of the following: <sup>1</sup>	4	
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)		
MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa)		
STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)		
University/State Fine Arts core course		3
Science Elective and accompanying Laboratory from BIOL, CHEM, GEOL or PHYS		4
General Elective		3
ANTH 1033 Introduction to Archaeology (Sp, Fa)		3
Science Elective and accompanying Laboratory from BIOL, CHEM, GEOL or PHYS		3
Science elective and accompanying laboratory from BIOL, CHEM, GEOL or PHYS		3
University/State Social Science core courses		6
Year Total:	14	15

	Units	
	Fall	Spring
<b>Third Year</b>		
ANTH Electives among 3000-4000-level courses <sup>1,2</sup>	6	
3000-4000-level Fulbright College Electives <sup>1,2</sup>	3	
General Electives	6	
ANTH Electives among 3000-4000-level courses <sup>1,2</sup>		9
3000-4000 level General Electives <sup>1</sup>		3
Science Elective and Accompanying Laboratory from BIOL, CHEM, GEOL or PHYS		4
Year Total:	15	16

	Units	
	Fall	Spring
<b>Fourth Year</b>		
ANTH 4013 History of Anthropological Thought (Fa) <sup>1,2</sup>	3	
3000-4000 level General Electives <sup>1</sup>	3	
3000-4000 level General Electives (or 2000-level Advanced level elective) <sup>1</sup>	9	
ANTH Electives among 3000-4000-level courses <sup>1,2</sup>		3
General Electives		9
Year Total:	15	12

Total Units in Sequence:	120
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<sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations (p. 183).

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations (p. 183).

## Bachelor of Arts in Anthropology

Requirements for a Bachelor of Arts Degree with a Major in Anthropology:

### 34 Semester Hours including:

ANTH 1013	Introduction to Biological Anthropology (Sp, Su)	3
ANTH 1011L	Introduction to Biological Anthropology Laboratory (Fa)	1
ANTH 1023	Introduction to Cultural Anthropology (ACTS Equivalency = ANTH 2013) (Sp, Su, Fa)	3
ANTH 1033	Introduction to Archaeology (Sp, Fa)	3
ANTH 4013	History of Anthropological Thought (Fa)	3

These 34 hours must also include:

- One course in each ANTH subfield (Cultural, Archeology, Biological) beyond the core (9 hours).
- 3 hours from each of two different geographical areas in ANTH for a total of 6 hours.
- 6 elective credit hours in anthropology. These may satisfied in concert with an optional focused study as described below.

## Focused Studies

### Focused Study in Archeology:

To complete the focused study, a student is required to fulfill the following course requirements:

ANTH 3023	Approaches to Archeology (Sp)	3
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Two of the following method and theory courses or equivalent classes offered under ANTH 3903 and ANTH 4903, approved as having an archeological method and theory focus.

ANTH 4093	The Archeology of Death (Irregular)	
ANTH 4353	Laboratory Methods in Archeology (Irregular)	
ANTH 4443	Cultural Resource Management I (Sp)	
ANTH 4603	Landscape Archaeology (Fa)	
ANTH 4633	Archeological Prospecting and Remote Sensing (Irregular)	
ANTH 4813	Ethnographic Approaches to the Past (Irregular)	

Archeological Field Session	6
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ANTH 4256	Archeological Field Session (Su)	
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### Focused Study in Biological Anthropology:

To complete the focused study, a student is required to fulfill the following course requirements:

Four of the following courses in biological anthropology, including any 3000-4000 special topics or seminar courses offered that are deemed appropriate for training in any of the subdisciplines of biological anthropology (12-13 credits).

ANTH 3423	Human Osteology (Sp)	4
& ANTH 3421L	and Human Osteology Laboratory (Sp)	
ANTH 3433	Human Evolution (Fa)	3
ANTH 3443	Criminalistics: Forensic Sciences (Irregular)	3
ANTH 3533	Medical Anthropology (Irregular)	3
ANTH 3923H	Honors Colloquium (Irregular)	3
ANTH 4523	Dental Science (Fa)	3
ANTH 4613	Primate Adaptation and Evolution (Sp)	3

## Focused Study in Cartography/Remote Sensing/GIS:

This focused study gives students an opportunity to develop expertise in (1) cartography, map design and computer-assisted map production, (2) remote sensing and image interpretation, including photographic systems, sensor systems, and digital image processing, and (3) geographic information systems, including data sources, analytical techniques, and hardware/software systems.

To complete the focused study, a student is required to fulfill the following course requirements.

### Required Courses:

GEOS 3023	Introduction to Cartography (Fa)	3
GEOS 4413	Principles of Remote Sensing (Fa)	3
ANTH 3543	Geospatial Applications and Information Science (Sp, Fa)	3

Elective Courses - Select three of the following: 9

GEOS 4523	Cartographic Design and Production (Sp)	
GEOS 5423	Remote Sensing of Natural Resources (Even years, Sp)	
ANTH 4553	Introduction to Raster GIS (Fa)	
ANTH 4563	Vector GIS (Sp)	
ANTH 4593	Introduction to Global Positioning Systems and Global Navigation Satellite Systems (Sp)	
STAT 4003	Statistical Methods (Sp, Fa) (or other approved statistics course)	
CVEG 2053	Surveying Systems (Sp, Fa) (or other approved surveying course)	

## Focused Study in Cultural Anthropology:

To complete the focused study, a student is required to fulfill the following course requirements:

Students must take a world language through the 2013 level 12

Two of the following method and theory courses or equivalent classes offered under ANTH 3903 and ANTH 4903 approved as having a cultural anthropology method and theory focus. 6

ANTH 3123	The Anthropology of Religion (Sp)	
ANTH 3143	Language and Expressive Culture (Irregular)	
ANTH 3163	Male and Female: A Cultural and Biological Overview (Fa)	
ANTH 3533	Medical Anthropology (Irregular)	
ANTH 4033	Popular Culture (Irregular)	
ANTH 4143	Ecological Anthropology (Irregular)	
ANTH 4363	Museums, Material Culture, and Popular Imagination (Fa)	

ANTH 4813 Ethnographic Approaches to the Past (Irregular)

**Writing Requirement:** The Fulbright College research/analytical paper requirement for anthropology majors is fulfilled by completing an intensive writing requirement (15 pages) with a grade of "B" or higher in a successfully completed 4000-level ANTH course and with instructor approval.

## Anthropology B.A. Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

First Year	Units	
	Fall	Spring
ANTH 1013 Introduction to Biological Anthropology (Sp, Su) & ANTH 1011L Introduction to Biological Anthropology Laboratory (Fa)	4	
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3	
ANTH 1023 Introduction to Cultural Anthropology (ACTS Equivalency = ANTH 2013) (Sp, Su, Fa)	3	
University/state Humanities or Fine Arts core requirement	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
University/state Humanities or Fine Arts core requirement		3
Science University/State Core Lecture with corequisite Lab requirement	4	
University/State Social Science core requirement	3	
Select one University/State Core U.S. History course: HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa) HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa) PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)	3	3
Year Total:	16	16

Second Year	Units	
	Fall	Spring
ANTH 1033 Introduction to Archaeology (Sp, Fa)	3	
University/State Social Science core requirement	3	
ANTH Cultural Anthropology subfield course among 3000-4000 level classes <sup>1,2</sup>	3	
General Electives	6	

ANTH Biological Anthropology subfield course among 3000-4000 level classes <sup>1,2</sup>		3
ANTH Archeology subfield course among 3000-4000 level classes <sup>1,2</sup>		3
ANTH Geographical area course among 3000-4000 level classes <sup>1,2</sup>		3
ANTH Electives among 3000-4000 level classes <sup>1,2</sup>		6
Year Total:	15	15

Third Year	Units	
	Fall	Spring
ANTH Geographical area course among 3000-4000 level classes <sup>1,2</sup>	3	
3000-4000 Level General Electives <sup>1,2</sup> (or 2000-level Advanced Level Electives) <sup>1</sup>	6	
General Electives	6	
3000-4000 level General Electives <sup>1</sup>		6
General Electives		10
Year Total:	15	16

Fourth Year	Units	
	Fall	Spring
ANTH 4013 History of Anthropological Thought (Fa) <sup>1,2</sup>	3	
Advanced Level Electives <sup>1</sup>	3	
General Electives	9	
Advanced Level Electives (as needed to meet 40 hour rule) <sup>1</sup> or General Electives		3
General Electives		9
Year Total:	15	12

Total Units in Sequence: 120

<sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations (p. 183).

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations (p. 183).

## Minor in Anthropology

**Requirements for a Minor in Anthropology:** 15 hours including ANTH 1023. At least 9 hours must be in courses numbered 3000 or above. Students who minor in anthropology should consult with an anthropology adviser to select appropriate courses. A student must notify the department of his or her intent to minor.

**Requirements for Departmental Honors in Anthropology:** The Departmental Honors Program in Anthropology provides an opportunity for outstanding undergraduate majors to conduct independent research under the supervision of a faculty member. The research project culminates in an honors thesis, which is primary for the award "Anthropology Scholar *Cum Laude*." Higher degree distinctions are recommended only in truly exceptional cases and are based upon the candidate's entire program of honors studies.

Honors candidates must meet the college requirements for an honors degree. They must complete and defend an honors thesis and take 12 hours, which may include 6 hours of thesis, in Honors Studies. The candidate is expected to maintain a minimum 3.5 cumulative grade-point average in anthropology and other course work.

Please refer to the Secondary Education Requirements (<http://catalog.uark.edu/undergraduatecatalog/collegesandschools/jwilliamfulbrightcollegeofartsandsciences/#fieldsofstudytext>) for Fulbright College Students.

Students wishing to pursue licensure through the UAteach undergraduate curriculum should consult with a UAteach adviser, [uteach@uark.edu](mailto:uteach@uark.edu).

## Art (ARTS)

### Faculty

**David Andree**, Visiting Assistant Professor  
**Kara J. Andree**, Instructor  
**David Charles Chioffi**, Associate Professor  
**Benjamin Cirgin**, Instructor  
**Dylan DeWitt**, Instructor  
**Rebecca Drolen**, Visiting Assistant Professor  
**Vincent A. Edwards**, Instructor  
**Alexander J. Hanson**, Instructor  
**Thomas Layley Hapgood Jr.**, Associate Professor  
**Alexander Hason**, Instructor  
**Jeannie Hulen**, Associate Professor  
**Lynn Frances Jacobs**, Distinguished Professor  
**Sam King**, Clinical Assistant Professor  
**Marty Maxwell Lane**, Assistant Professor  
**Angela M. LaPorte**, Professor  
**Amanda Lee**, Instructor  
**Linda Nguyen Lopez**, Instructor  
**Michael Maizels**, Assistant Professor  
**Mathew S. McConnell**, Associate Professor  
**Marc E. Mitchell**, Assistant Professor  
**Sean P. Morrissey**, Assistant Professor  
**Kristin Ann Musgnug**, Associate Professor  
**Michael David Peven**, Professor  
**Ana Pulido Rull**, Assistant Professor  
**Kasey Ramirez**, Instructor  
**Bethany Lynn Springer**, Associate Professor  
**Larry David Swartwood**, Visiting Assistant Professor  
**Janine A. Sytsma**, Visiting Assistant Professor  
**Nichelle La Von Wilson-Parrish**, Instructor  
**Cindy Wiseman**, Instructor

Jeannie Hulen  
 Chair of the School of Art  
 116 Fine Arts Building  
 479-575-5202  
<http://art.uark.edu>

The School of Art offers two undergraduate programs leading to degrees:

- Bachelor of Arts
- Bachelor of Fine Arts

Separate requirements for each program and its concentrations are listed under the tabs. Requirements for honors are also listed with each program. The School of Art also offers a minor in art history.

Under direction of accomplished faculty, the School of Art offers professional art degrees in many media areas, including art education, art history, ceramics, drawing, painting, photography, printmaking, sculpture, and visual design. Students enjoy a close proximity to the Crystal Bridges Museum of American Art, with which the School of Art has a strong relationship. The school also works closely with other local arts organizations and maintains an active presence in the communities of Northwest Arkansas. The school's Fine Arts Gallery (<http://art.uark.edu/fineartsgallery>), in the impressive Fine Arts Center designed by architect Edward Durell Stone, shows both student and professional works on a near-constant basis.

## Bachelor of Arts Degree

Transfer students should confer with the departmental advisers prior to entrance for information concerning entrance requirements and transfer credits. Transfer credit will be allowed from other accredited and recognized art departments and schools if the credit earned is compatible with program and course requirements within the University of Arkansas School of Art and reflects a grade of "C" or higher. In addition, a student must spend a minimum of 2 semesters in residence. Credit for advanced studio classes in the school is contingent upon presentation of a portfolio of works created in a college-level class equivalent to the class the student is seeking credit for in the School of Art. Professors in the relevant studio area will evaluate portfolios and determine transfer credits.

## Requirements for a Major in Art with a Concentration in Studio Art

In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following course requirements must be met.

A minimum of 57 semester hours to include:

6 hours of courses, taken outside the department of art (beyond courses applied to the state minimum core and as approved by a departmental adviser)	6
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51 Hours to include:

ARTS 1919C	Studio Foundation I (Sp, Fa)	9
ARTS 1929C	Studio Foundation II (Sp, Fa)	9
ARTS 4923	Professional Development (Sp, Fa)	3

in the student's media track

12 Hours of Art History to include:

ARHS 2913	Art History Survey I (ACTS Equivalency = ARTA 2003) (Sp, Fa)	3
ARHS 2923	Art History Survey II (ACTS Equivalency = ARTA 2103) (Sp, Fa)	3

Select one of the following: (Group 1) 3

ARHS 4563	Pre-Columbian Art (Irregular)	
ARHS 4573	Artists of New Spain (Irregular)	
ARHS 4733	Saint Peter's and the Vatican (Irregular)	
ARHS 4743	Medieval Architecture (Irregular)	
ARHS 4753	Renaissance and Baroque Architecture (Irregular)	
ARHS 4833	Ancient Art (Irregular)	
ARHS 4843	Medieval Art (Irregular)	
ARHS 4853	Italian Renaissance Art (Irregular)	
ARHS 4863	Northern Renaissance Art (Irregular)	
ARHS 4873	Baroque Art (Irregular)	
ARHS 4983	Special Topics in Art History (Irregular)	

Select one of the following: (Group 2)	3
ARHS 4763 Seminar in Critical Theory (Sp)	
ARHS 4813 The History of Photography (Irregular)	
ARHS 4823 History of Graphic Design (Irregular)	
ARHS 4883 18th and 19th Century European Art (Irregular)	
ARHS 4893 20th Century European Art (Irregular)	
ARHS 4913 American Art to 1860 (Irregular)	
ARHS 4923 American Art 1860-1960 (Irregular)	
ARHS 4933 Contemporary Art (Fa)	
ARHS 4993 Special Topics in Modern Art (Irregular)	

Students may take ARHS 4973 Seminar in Art History to fulfill their ARHS requirement, but designation as Group 1 or 2 will depend on the specific seminar taken.

In addition, the art major must complete:

A minimum of four semesters (12 credits) in one media track of art	12
A minimum of two semesters (6 credits) in a second media track	6
<b>Total Hours</b>	<b>57</b>

Media tracks are drawing, painting, sculpture, printmaking, ceramics, and photography.

Art majors must complete a basic fine arts course that satisfies the University Core requirement from outside the School of Art.

**Writing Requirement:** Students majoring in art will satisfy the Fulbright College writing requirement by successful completion (a grade of at least a "C") in the final paper in one of the following:

ARHS 3923H Honors Colloquium (Irregular)	3
ARHS 4563 Pre-Columbian Art (Irregular)	3
ARHS 4573 Artists of New Spain (Irregular)	3
ARHS 4743 Medieval Architecture (Irregular)	3
ARHS 4753 Renaissance and Baroque Architecture (Irregular)	3
ARHS 4763 Seminar in Critical Theory (Sp)	3
ARHS 4833 Ancient Art (Irregular)	3
ARHS 4843 Medieval Art (Irregular)	3
ARHS 4853 Italian Renaissance Art (Irregular)	3
ARHS 4863 Northern Renaissance Art (Irregular)	3
ARHS 4873 Baroque Art (Irregular)	3
ARHS 4883 18th and 19th Century European Art (Irregular)	3
ARHS 4893 20th Century European Art (Irregular)	3
ARHS 4913 American Art to 1860 (Irregular)	3
ARHS 4923 American Art 1860-1960 (Irregular)	3
ARHS 4933 Contemporary Art (Fa)	3
ARHS 4963 Individual Research in Art History (Sp, Fa)	3
ARHS 4973 Seminar in Art History (Irregular)	3
ARHS 4983 Special Topics in Art History (Irregular)	3
ARHS 4993 Special Topics in Modern Art (Irregular)	3

or by successful completion (a grade of at least a "C") in a thesis in art history.

## Art B.A. with a Concentration in Studio Art Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of

the program. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

Primary concentration requires 12 hours in one area chosen from ceramics, drawing, painting, photography, printmaking or sculpture.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3	
ARTS 1919C Studio Foundation I (Sp, Fa)	9	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
ARTS 1929C Studio Foundation II (Sp, Fa)		9
University/State Core U.S. history or American National Government		3
<b>Year Total:</b>	<b>15</b>	<b>15</b>

Second Year	Units	
	Fall	Spring
ARTS Primary Studio Concentration I <sup>1,2</sup>	3	
ARHS 2913 Art History Survey I (ACTS Equivalency = ARTA 2003) (Sp, Fa) or ARHS 2923 Art History Survey II (ACTS Equivalency = ARTA 2103) (Sp, Fa)	3	
University/state core humanities or fine arts requirement (as needed)	3	
Science University/state core lecture w/ corequisite lab requirement	4	
Approved non-Art Elective	3	
ARTS Primary Studio Concentration II <sup>1,2</sup>		3
ARTS Secondary Studio Concentration I <sup>1,2</sup>		3
ARHS 2913 Art History Survey I (ACTS Equivalency = ARTA 2003) (Sp, Fa) or ARHS 2923 Art History Survey II (ACTS Equivalency = ARTA 2103) (Sp, Fa) (as needed)		3
University/State Core Humanities or Fine Arts Requirement (as needed)		3
Advanced Level Elective <sup>1</sup>		3
<b>Year Total:</b>	<b>16</b>	<b>15</b>

Third Year	Units	
	Fall	Spring
ARTS Primary Studio Concentration III <sup>1,2</sup>	3	
ARTS Secondary Studio Concentration II <sup>1,2</sup>	3	
Upper Level ARHS Group 1 or 2 (below) <sup>1,2</sup>	3	
University/State Core Social Science Requirement	3	
3000+ General Elective <sup>1</sup>	3	
ARTS Primary Studio Concentration IV <sup>1,2</sup>		3
ARHS Upper Level Group 1 or 2 (below, as needed) <sup>1,2</sup>		3

University/state core social science requirement	3	
Advanced Level Elective <sup>1</sup>	3	
General Electives	3	
Year Total:	15	15

Fourth Year	Units	
	Fall	Spring
ARTS 4923 Professional Development (Sp, Fa) (in the student's area of concentration OR Advanced Level Elective <sup>1</sup> )	3	
University/State Core Social Science Requirement	3	
Approved non-Art Elective	3	
General Electives	6	
ARTS 4923 Professional Development (Sp, Fa) (in the student's area of concentration OR Advanced Level Elective as needed <sup>1</sup> )		3
Science University/State Core Lecture w/ Corequisite Lab Requirement		4
Advanced Level Electives (as needed to meet 40-hr rule) or General Electives		7
Year Total:	15	14
Total Units in Sequence:		120

<sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations (p. 183).

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations (p. 183).

**Upper Level ARHS Group 1**

Select one of the following:	3
ARHS 4563 Pre-Columbian Art (Irregular)	
ARHS 4573 Artists of New Spain (Irregular)	
ARHS 4733 Saint Peter's and the Vatican (Irregular)	
ARHS 4743 Medieval Architecture (Irregular)	
ARHS 4753 Renaissance and Baroque Architecture (Irregular)	
ARHS 4833 Ancient Art (Irregular) (ARHS 2913)	
ARHS 4843 Medieval Art (Irregular) (ARHS 2913)	
ARHS 4853 Italian Renaissance Art (Irregular) (ARHS 2923)	
ARHS 4863 Northern Renaissance Art (Irregular) (ARHS 2923)	
ARHS 4873 Baroque Art (Irregular) (ARHS 2923)	
ARHS 4983 Special Topics in Art History (Irregular) ((ARHS 2913 or ARHS 2923))	

**Upper Level ARHS Group 2**

Select one of the following:	3
ARHS 4763 Seminar in Critical Theory (Sp)	
ARHS 4813 The History of Photography (Irregular)	
ARHS 4823 History of Graphic Design (Irregular) ((ARHS 2923))	
ARHS 4883 18th and 19th Century European Art (Irregular) (ARHS 2923)	
ARHS 4893 20th Century European Art (Irregular) (ARHS 2923)	

ARHS 4913 American Art to 1860 (Irregular) (ARHS 2923)	
ARHS 4923 American Art 1860-1960 (Irregular) (ARHS 2923)	
ARHS 4933 Contemporary Art (Fa) ((ARHS 2923 and ARHS 4923))	
ARHS 4993 Special Topics in Modern Art (Irregular) ((ARHS 2923))	

Students may take ARHS 4973 Seminar in Art History to fulfill an ARHS requirement, but designation as Group 1 or 2 will depend on the topic of the specific seminar taken.

**Bachelor of Arts Degree**

Transfer students should confer with the School of Art advisers prior to entrance for information concerning entrance requirements and transfer credits. Transfer credit will be allowed from other accredited and recognized art departments and schools if the credit earned is compatible with program and course requirements within the University of Arkansas School of Art and reflects a grade of "C" or higher. In addition, a student must spend a minimum of 2 semesters in residence. Credit for advanced studio classes in the school is contingent upon presentation of a portfolio of works created in a college-level class equivalent to the class the student is seeking credit for in the School of Art. Professors in the relevant studio area will evaluate portfolios and determine transfer credits.

**Requirements for a Major in Art with a Concentration in Art History**

In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the University/state minimum core requirements.

A minimum of 51 semester hours:

Completion of 2013 Intermediate II of a world language. <sup>1</sup>	3-9
Nine hours of courses from outside the department of art (as approved by a departmental adviser)	9

39 Semester Hours Including:

6 hours in ARTS courses	6
ARHS 2913 Art History Survey I (ACTS Equivalency = ARTA 2003) (Sp, Fa)	3
ARHS 2923 Art History Survey II (ACTS Equivalency = ARTA 2103) (Sp, Fa)	3

In addition to the preceding requirements, 18 hours of upper division art history courses to include:

At least two courses selected from: (Group 1)

ARHS 4563 Pre-Columbian Art (Irregular)	
ARHS 4573 Artists of New Spain (Irregular)	
ARHS 4733 Saint Peter's and the Vatican (Irregular)	
ARHS 4743 Medieval Architecture (Irregular)	
ARHS 4753 Renaissance and Baroque Architecture (Irregular)	
ARHS 4833 Ancient Art (Irregular)	
ARHS 4843 Medieval Art (Irregular)	
ARHS 4853 Italian Renaissance Art (Irregular)	
ARHS 4863 Northern Renaissance Art (Irregular)	
ARHS 4873 Baroque Art (Irregular)	
ARHS 4983 Special Topics in Art History (Irregular)	

And at least two courses selected from: (Group 2)



ARHS 4763	Seminar in Critical Theory (Sp)	
ARHS 4813	The History of Photography (Irregular)	
ARHS 4883	18th and 19th Century European Art (Irregular)	
ARHS 4893	20th Century European Art (Irregular)	
ARHS 4913	American Art to 1860 (Irregular)	
ARHS 4923	American Art 1860-1960 (Irregular)	
ARHS 4933	Contemporary Art (Fa)	
ARHS 4993	Special Topics in Modern Art (Irregular)	

And 2 additional courses (6 hours) from any upper-division ARHS courses

In addition, two seminar courses in art history, and one elective course in art history or studio art. 9

Total Hours 51-57

<sup>1</sup> This is usually accomplished through completion of a sequence of language courses: 1003, 1013, 2003 and 2013.

Art majors must complete a basic fine arts course that satisfies the University Core requirement from outside the department of Art.

**Writing Requirement:** Students majoring in art will satisfy the Fulbright College writing requirement by successful completion (a grade of at least a "C") in the final paper in one of the following:

ARHS 3923H	Honors Colloquium (Irregular)	3
ARHS 4563	Pre-Columbian Art (Irregular)	3
ARHS 4573	Artists of New Spain (Irregular)	3
ARHS 4743	Medieval Architecture (Irregular)	3
ARHS 4753	Renaissance and Baroque Architecture (Irregular)	3
ARHS 4763	Seminar in Critical Theory (Sp)	3
ARHS 4833	Ancient Art (Irregular)	3
ARHS 4843	Medieval Art (Irregular)	3
ARHS 4853	Italian Renaissance Art (Irregular)	3
ARHS 4863	Northern Renaissance Art (Irregular)	3
ARHS 4873	Baroque Art (Irregular)	3
ARHS 4883	18th and 19th Century European Art (Irregular)	3
ARHS 4893	20th Century European Art (Irregular)	3
ARHS 4913	American Art to 1860 (Irregular)	3
ARHS 4923	American Art 1860-1960 (Irregular)	3
ARHS 4933	Contemporary Art (Fa)	3
ARHS 4963	Individual Research in Art History (Sp, Fa)	3
ARHS 4973	Seminar in Art History (Irregular)	3
ARHS 4983	Special Topics in Art History (Irregular)	3
ARHS 4993	Special Topics in Modern Art (Irregular)	3

or by successful completion (a grade of at least a "C") in a thesis in art history.

## Art B.A. with a Concentration in Art History Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

First Year		Units	
	Fall	Spring	
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3		
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) ((or any higher level mathematics))	3		
ARHS 2913 Art History Survey I (ACTS Equivalency = ARTA 2003) (Sp, Fa) or ARHS 2923 Art History Survey II (ACTS Equivalency = ARTA 2103) (Sp, Fa)	3		
1013 Elementary II World Language (or higher level, depending on placement)	3		
University/State Core U.S. History or Fine Arts requirement	3		
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3	
ARHS 2923 Art History Survey II (ACTS Equivalency = ARTA 2103) (Sp, Fa) or ARHS 2913 Art History Survey I (ACTS Equivalency = ARTA 2003) (Sp, Fa)		3	
ARTS course		3	
Science University/State Core Lecture with Corequisite Lab requirement		4	
2003 Intermediate I World Language (fulfills a university/state core humanities requirement)		3	
Year Total:	15	16	

Second Year		Units	
	Fall	Spring	
Upper Level Art History Group 1 or 2 (below) <sup>1,2</sup>	3		
2013 Intermediate II World Language (as needed)	3		
Advanced Level Elective <sup>1</sup>	3		
University/State Core Fine Arts or U.S. History requirement (as needed)	3		
University/State Core Social Sciences requirement	3		
ARTS course		3	
Upper Level Art History Group 1 or 2 (below) <sup>1,2</sup>		3	
General Elective		3	
University/State Core Social Sciences requirement		3	
Science University/State Core Lecture w/ Corequisite Lab requirement		4	
Year Total:	15	16	

Third Year		Units	
	Fall	Spring	
Upper Level Art History Group 1 or 2 (below, as needed) <sup>1,2</sup>	3		
Advanced Level Electives <sup>1</sup>	6		
Approved non-Art elective	3		
University/State Core Social Sciences requirement	3		
Upper Level Art History Group 1 or 2 (below, as needed) <sup>1,2</sup>		3	
Upper Level Art Elective <sup>1,2</sup>		3	
Approved non-Art elective		3	

General Electives	6
Year Total:	15

Fourth Year	Units	
	Fall	Spring
ARHS Seminar <sup>1,2</sup>	3	
Approved non-Art elective	3	
Upper Level Art History Elective <sup>1,2</sup>	3	
General Electives	4	
ARHS Seminar <sup>1,2</sup>		3
Upper Level ARSC Elective <sup>1,2</sup>		3
3000-plus Advanced Level Elective <sup>1</sup>		3
Advanced Level Elective <sup>1</sup>		3
Upper Level Art History Elective <sup>1,2</sup>		3
Year Total:	13	15

Total Units in Sequence: 120

<sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations (p. 183).

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations (p. 183).

#### Upper Level ARHS Group 1

Choose at least two courses from the following:

ARHS 4563	Pre-Columbian Art (Irregular)
ARHS 4573	Artists of New Spain (Irregular)
ARHS 4733	Saint Peter's and the Vatican (Irregular)
ARHS 4743	Medieval Architecture (Irregular)
ARHS 4753	Renaissance and Baroque Architecture (Irregular)
ARHS 4833	Ancient Art (Irregular) (ARHS 2913)
ARHS 4843	Medieval Art (Irregular) (ARHS 2913)
ARHS 4853	Italian Renaissance Art (Irregular) (ARHS 2923)
ARHS 4863	Northern Renaissance Art (Irregular) (ARHS 2923)
ARHS 4873	Baroque Art (Irregular) (ARHS 2923)
ARHS 4983	Special Topics in Art History (Irregular)

#### Upper Level ARHS Group 2

Choose at least two courses from the following:

ARHS 4763	Seminar in Critical Theory (Sp)
ARHS 4813	The History of Photography (Irregular)
ARHS 4883	18th and 19th Century European Art (Irregular) (ARHS 2923)
ARHS 4893	20th Century European Art (Irregular) (ARHS 2923)
ARHS 4913	American Art to 1860 (Irregular) (ARHS 2923)
ARHS 4923	American Art 1860-1960 (Irregular) (ARHS 2923)
ARHS 4933	Contemporary Art (Fa)
ARHS 4993	Special Topics in Modern Art (Irregular)

## Bachelor of Fine Arts Degree

**Admission:** Students earning a grade-point average of 3.00 or higher in art, after the completion of ARTS 1919C, ARTS 1929C, and who have maintained an overall grade-point average of 2.00 are eligible to make

application to the B.F.A. degree program. In addition to meeting the required grade-point average, all students must submit, as part of their application, a portfolio of current representative work for evaluation by the art faculty. Acceptance into the B.F.A. program is contingent upon favorable evaluation by the art faculty of the applicant's portfolio. Upon acceptance into the B.F.A. degree program, each student will be assigned a major adviser for the purpose of completing a degree plan, which must meet school approval.

After entry into the B.F.A. program, the student is required to complete two semesters with a minimum of three credit hours of course work in their major studio area each semester.

Transfer credit will be allowed from other accredited and recognized art departments and schools if the credit earned is compatible with program and course requirements within the UA School of Art and reflects a grade of "C" or higher. The UA School of Art will not accept more than 50 percent of the required B.F.A. professional degree credits from another institution. The School of Art will require portfolio review for acceptance of all studio art transfer courses above the foundations level.

**Degree Requirements:** The Bachelor of Fine Arts degree will be awarded to students, who, upon the completion of the approved program, have maintained a 3.00 grade-point average within the UA School of Art and a 2.00 grade-point average overall. Students in the B.F.A. program whose grade point average falls below 3.0 in art classes for two consecutive semesters will be dismissed from the B.F.A. program. A faculty-supervised critique of the work of each student, once each semester in the program, is required. A senior review and exhibition will be required prior to the granting of the degree.

**Off-Campus Study Requirement:** Each student is required to complete an approved off-campus study experience each semester in the program. This may involve a field trip to an urban center that includes visits to major art collections.

## Requirements for the Bachelor of Fine Arts Degree with a Concentration in Studio Art

In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183) (see under College Academic Regulations and Degree Completion Policy), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the University/state minimum core requirements.

A Minimum of 84 Semester Hours Including:

ARTS 1919C	Studio Foundation I (Sp, Fa)	9
ARTS 1929C	Studio Foundation II (Sp, Fa)	9
ARTS 4923	Professional Development (Sp, Fa)	3
PHIL 2003	Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)	3
PHIL 4403	Philosophy of Art (Sp)	3
Plus a Minimum of 18 Semester Hours in the Selected Studio Major		18
A Minimum of 24 Semester Hours in Art Electives <sup>1</sup>		24
At Least 15 Semester Hours in Art History including:		15
ARHS 2913	Art History Survey I (ACTS Equivalency = ARTA 2003) (Sp, Fa)	
ARHS 2923	Art History Survey II (ACTS Equivalency = ARTA 2103) (Sp, Fa)	
ARHS 4933	Contemporary Art (Fa)	

6 additional hours in ARHS

Total Hours 84

<sup>1</sup> Must include a minimum of one course from each of the following areas, excluding primary media tracks: drawing, painting, sculpture, printmaking, visual design, photography, and ceramics. Up to six credit hours may be taken outside of the department with approval.

**Writing Requirement:** Students majoring in art will satisfy the Fulbright College writing requirement by successful completion (a grade of at least a "C") in the final paper in one of the following:

ARHS 3923H	Honors Colloquium (Irregular)	3
ARHS 4563	Pre-Columbian Art (Irregular)	3
ARHS 4573	Artists of New Spain (Irregular)	3
ARHS 4743	Medieval Architecture (Irregular)	3
ARHS 4753	Renaissance and Baroque Architecture (Irregular)	3
ARHS 4763	Seminar in Critical Theory (Sp)	3
ARHS 4833	Ancient Art (Irregular)	3
ARHS 4843	Medieval Art (Irregular)	3
ARHS 4853	Italian Renaissance Art (Irregular)	3
ARHS 4863	Northern Renaissance Art (Irregular)	3
ARHS 4873	Baroque Art (Irregular)	3
ARHS 4883	18th and 19th Century European Art (Irregular)	3
ARHS 4893	20th Century European Art (Irregular)	3
ARHS 4913	American Art to 1860 (Irregular)	3
ARHS 4923	American Art 1860-1960 (Irregular)	3
ARHS 4933	Contemporary Art (Fa)	3
ARHS 4963	Individual Research in Art History (Sp, Fa)	3
ARHS 4973	Seminar in Art History (Irregular)	3
ARHS 4983	Special Topics in Art History (Irregular)	3
ARHS 4993	Special Topics in Modern Art (Irregular)	3

or by successful completion (a grade of at least a "C") in a thesis in art history.

## Art B.F.A. with a Concentration in Studio Art Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

Primary concentration requires 18 hours in one area chosen from ceramics, drawing, visual design, painting, photography, printmaking or sculpture.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) ((or higher level mathematics))	3	
ARTS 1919C Studio Foundation I (Sp, Fa)	9	

ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)	3	
ARTS 1929C Studio Foundation II (Sp, Fa)	9	
Social Science University/State Core requirement	3	
Year Total:	15	15

Second Year	Units	
	Fall	Spring
Arts Primary Studio Concentration 1	3	
ARTS Elective Area 1	3	
ARTS Elective Area 2	3	
ARHS 2913 Art History Survey I (ACTS Equivalency = ARTA 2003) (Sp, Fa) or ARHS 2923 Art History Survey II (ACTS Equivalency = ARTA 2103) (Sp, Fa)	3	
Science University/State Core Lecture with Corequisite Lab Requirement	4	
APPLY FOR B.F.A. DEGREE PROGRAM		
MUST BE ACCEPTED INTO B.F.A. PROGRAM TO CONTINUE		
ARTS Elective Area 3		3
ARTS Primary Studio Concentration 2 <sup>1,2</sup>		3
ARHS 2913 Art History Survey I (ACTS Equivalency = ARTA 2003) (Sp, Fa) (as needed) or ARHS 2923 Art History Survey II (ACTS Equivalency = ARTA 2103) (Sp, Fa)		3
Science University/State Core Lecture with Corequisite Lab Requirement		4
General Electives		1
Year Total:	16	14

Third Year	Units	
	Fall	Spring
ARTS Primary Studio Concentration 3 <sup>1,2</sup>	3	
ARTS Elective Area 4	3	
ARHS Art History Upper Level or ARHS 4933 Contemporary Art <sup>1,2</sup>	3	
PHIL 2003 Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)	3	
General Elective	3	
ARTS Primary Studio Concentration 4 <sup>1,2</sup>		3
ARTS Elective Area 5		3
ARHS Art History Upper Level or ARHS 4933 Contemporary Art (as needed) <sup>1,2</sup>		3
Social Science University/state core requirement		3
U.S. History University/state core requirement		3
Year Total:	15	15

Fourth Year	Units	
	Fall	Spring
ARTS Primary Concentration 5 <sup>1,2</sup>	3	
ARTS Elective Area 6	3	
ARHS 4933 Contemporary Art (Fa) (or Art History upper-level as needed)	3	

ARTS 4923 Professional Development (Sp, Fa) (in the student's area of concentration or General Elective) <sup>1,2</sup>	3	
Social Science University/State core requirement	3	
ARTS Primary Studio Concentration 6 <sup>1,2</sup>		3
ARTS Elective Area 7		3
ARTS Upper-level Elective (may be in primary area) <sup>1,2</sup>		3
ARTS 4923 Professional Development (Sp, Fa) (in the student's area of concentration if needed, or General Elective) <sup>1,2</sup>		3
PHIL 4403 Philosophy of Art (Sp) <sup>1,2</sup>	3	
Year Total:	15	15

Total Units in Sequence: 120

- <sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations (p. 183).
- <sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations (p. 183).

## Bachelor of Fine Arts Degree

**Admission:** Students earning a grade-point average of 3.00 or higher in art, after the completion of ARTS 1919C, ARTS 1929C, and who have maintained an overall grade-point average of 2.00 are eligible to make application to the B.F.A. degree program. In addition to meeting the required grade-point average, all students must submit, as part of their application, a portfolio of current representative work for evaluation by the art faculty. Acceptance into the B.F.A. program is contingent upon favorable evaluation by the art faculty of the applicant's portfolio. Upon acceptance into the B.F.A. degree program, each student will be assigned a major adviser for the purpose of completing a degree plan, which must meet school approval.

After entry into the B.F.A. program, the student is required to complete two semesters with a minimum of three credit hours of course work in their major studio area each semester.

Transfer credit will be allowed from other accredited and recognized art departments and schools if the credit earned is compatible with program and course requirements within the UA School of Art and reflects a grade of "C" or higher. The UA School of Art will not accept more than 50 percent of the required B.F.A. professional degree credits from another institution. The School of Art will require portfolio review for acceptance of all studio art transfer courses above the foundations level.

**Degree Requirements:** The Bachelor of Fine Arts degree will be awarded to students, who, upon the completion of the approved program, have maintained a 3.00 grade-point average within the UA School of Art and a 2.00 grade-point average overall. Students in the B.F.A. program whose grade point average falls below 3.0 in art classes for two consecutive semesters will be dismissed from the B.F.A. program. A faculty-supervised critique of the work of each student, once each semester in the program, is required. A senior review and exhibition will be required prior to the granting of the degree.

**Off-Campus Study Requirement:** Each student is required to complete an approved off-campus study experience each semester in the program.

This may involve a field trip to an urban center that includes visits to major art collections.

## Requirements for the Bachelor of Fine Arts Degree with a Concentration in Art Education

In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183) (see under College Academic Regulations and Degree Completion Policy), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the University/state minimum core requirements.

A minimum of 72 hours to include:

2003 Intermediate I of a world language. This is usually accomplished 3-6 through completion of a sequence of two language courses: 1013 and 2003.

COMM 1313	Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3
PHIL 2003	Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)	3
PHIL 4403	Philosophy of Art (Sp)	3
PSYC 2003	General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)	3
ARTS 1919C	Studio Foundation I (Sp, Fa)	9
ARTS 1929C	Studio Foundation II (Sp, Fa)	9
ARTS 4923	Professional Development (Sp, Fa)	3
A minimum of 12 hours in a selected studio major and		12
6 hours in a selected studio minor		6
At Least 12 Hours in Art History including		12
ARHS 2913	Art History Survey I (ACTS Equivalency = ARTA 2003) (Sp, Fa)	
ARHS 2923	Art History Survey II (ACTS Equivalency = ARTA 2103) (Sp, Fa)	
ARHS 4933	Contemporary Art (Fa)	
At least 6 hours of 3000- or 4000-level studio art electives exclusive of the studio major and minor.		6
Total Hours		72-75

In addition, for the Bachelor of Arts Degree with a Concentration in Art Education, the following coursework is required for internship eligibility and degree completion.

ENGL 1013	Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3
ENGL 1023	Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)	3
MATH 1203	College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3
CIED 1013	Introduction to Education (Sp, Fa)	3
CIED 3023	Survey of Exceptionalities (Sp, Su, Fa)	3
CIED 3033	Classroom Learning Theory (Sp, Su, Fa)	3
ARED 3613	Public School Art I (Irregular)	3
ARED 3643	Teaching Art in Elementary Schools (Fa)	3
ARED 3653	Teaching Art in Secondary Schools (Sp)	3

Students who wish to apply for admission to the internship program in art education must complete the following Stages.

**Stage I:** Complete an evaluation for internship. Students must also meet the following criteria to be cleared for the internship:

1. Successful completion of the PRAXIS I test by meeting or exceeding the Arkansas Department of Education cut-off scores. This test should be taken after the student has completed 30 credit hours and upon completion of ENGL 1013, ENGL 1023, and MATH 1203.
2. Obtain a "C" or better in the following pre-education core courses: CIED 1013, CIED 3023, and CIED 3033.
3. Obtain a "C" or better in ARED 3613, ARED 3643, ARED 3653.
4. Complete and submit online application to teacher education (see the Teacher Education Application Fee (p. 61)) through the university-wide Teacher Education Office, Graduate Education Building, Room 339, by Oct. 1 prior to doing a fall internship or March 1 prior to doing a spring internship. Complete the B.F.A. degree with a cumulative GPA of 2.50 or higher. The degree must be posted to your University of Arkansas transcript at the Registrar's Office prior to internship.
5. Obtain departmental clearance for internship based on successful completion of portfolios, evaluation for internship, GPA requirements, course work requirements, selected written recommendations, an interview, and/or other requirements specified by your program.
6. Complete licensure packet available from the Licensure Office in Graduate Education Building, Room 338. All requirements in Stage I must be met to be cleared for the internship. Please contact the Director of Field Placement and Licensure, Graduate Education Building, Room 339, College of Education and Health Professions for more information.

#### Stage II: Internship

1. Complete the one-semester internship at an approved site in Washington or Benton counties.
2. Complete Praxis II requirements. See your adviser for completion dates.

NOTE: Students should always consult the Coordinator of Teacher Education for any licensure requirement changes. Students will not be licensed to teach in Arkansas until they have met all requirements for licensure as set forth by the Arkansas Department of Education.

Usually licensure in another state is facilitated by qualifying for a license in Arkansas. An application in another state must be made on the application form of that state, which can be obtained by request from the State Teacher Licensure office in the capital city. An official transcript should accompany the application. In many instances the applications are referred to the Coordinator of Teacher Education to verify program completion in teacher education.

**Writing Requirement:** Students majoring in art will satisfy the Fulbright College writing requirement by successful completion (a grade of at least a 'C') in the final paper in one of the following:

ARHS 3923H	Honors Colloquium (Irregular)	3
ARHS 4563	Pre-Columbian Art (Irregular)	3
ARHS 4573	Artists of New Spain (Irregular)	3
ARHS 4743	Medieval Architecture (Irregular)	3
ARHS 4753	Renaissance and Baroque Architecture (Irregular)	3
ARHS 4763	Seminar in Critical Theory (Sp)	3
ARHS 4833	Ancient Art (Irregular)	3

ARHS 4843	Medieval Art (Irregular)	3
ARHS 4853	Italian Renaissance Art (Irregular)	3
ARHS 4863	Northern Renaissance Art (Irregular)	3
ARHS 4873	Baroque Art (Irregular)	3
ARHS 4883	18th and 19th Century European Art (Irregular)	3
ARHS 4893	20th Century European Art (Irregular)	3
ARHS 4913	American Art to 1860 (Irregular)	3
ARHS 4923	American Art 1860-1960 (Irregular)	3
ARHS 4933	Contemporary Art (Fa)	3
ARHS 4963	Individual Research in Art History (Sp, Fa)	3
ARHS 4973	Seminar in Art History (Irregular)	3
ARHS 4983	Special Topics in Art History (Irregular)	3
ARHS 4993	Special Topics in Modern Art (Irregular)	3

or by successful completion (a grade of at least a "C") in a thesis in art history.

### Art B.F.A. with a Concentration in Art Education Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) ((or higher level mathematics))	3	
ARTS 1919C Studio Foundation I (Sp, Fa)	9	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
ARTS 1929C Studio Foundation II (Sp, Fa)		9
1013 Elementary I World Language or higher (depending on placement in sequence)		3
Year Total:	15	15

Second Year	Units	
	Fall	Spring
ARTS Primary Studio Concentration 1	3	
ARTS Secondary Studio Concentration 1 <sup>1,2</sup>	3	
ARHS 2913 Art History Survey I (ACTS Equivalency = ARTA 2003) (Sp, Fa) or ARHS 2923 Art History Survey II (ACTS Equivalency = ARTA 2103) (Sp, Fa)	3	
CIED 1013 Introduction to Education (Sp, Fa)		3
2003 Intermediate I world language or higher level		3
APPLY FOR B.F.A. PROGRAM		
MUST BE ACCEPTED INTO B.F.A. PROGRAM TO CONTINUE		
ARTS Primary Studio Concentration 2 <sup>1,2</sup>		3

ARTS Secondary Studio Concentration 2 <sup>1,2</sup>	3	
ARHS 2913 Art History Survey I (ACTS Equivalency = ARTA 2003) (Sp, Fa) (as needed) or ARHS 2923 Art History Survey II (ACTS Equivalency = ARTA 2103) (Sp, Fa)	3	
PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)	3	
CIED 3023 Survey of Exceptionalities (Sp, Su, Fa) <sup>1</sup>	3	
Year Total:	15	15

Third Year	Units	
	Fall	Spring
ARTS Primary Studio Concentration 3 <sup>1,2</sup>	3	
ARED 3613 Public School Art I (Irregular)	3	
Science University/State Core Lecture with Corequisite Lab requirement	4	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3	
PHIL 2003 Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)	3	
TAKE PRAXIS 1 EXAM		
ARTS Primary Studio Concentration 4 <sup>1,2</sup>	3	
ARHS 4933 Contemporary Art (Fa) (or ARHS Art History Upper-Level Elective)	3	
ARED 3653 Teaching Art in Secondary Schools (Sp)	3	
CIED 3033 Classroom Learning Theory (Sp, Su, Fa) <sup>1</sup>	3	
Science University/state core lecture with corequisite lab requirement	4	
Year Total:	16	16

Fourth Year	Units	
	Fall	Spring
ARTS Elective (exclusive of studio major and minor)	3	
ARHS Art History Upper-level Elective or ARHS 4933 Contemporary Art <sup>1,2</sup>	3	
ARED 3643 Teaching Art in Elementary Schools (Fa) <sup>1,2</sup>	3	
ARTS 4923 Professional Development (Sp, Fa) (in the student's area of concentration or General Elective)	3	
Social Science University/State Core requirement	3	
ARTS Elective (exclusive of studio major and minor)		3
Social Sciences University/state Core requirement		3
1 General Elective, as needed to total 120 hours; OR ARTS 4923 in the student's area of concentration if still needed <sup>1, 2</sup>	1-3	
PHIL 4403 Philosophy of Art (Sp)	3	
U.S. History University/state core requirement	3	
Year Total:	15	13

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Total Units in Sequence: 120

<sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations (p. 183).

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations (p. 183).

Note: In addition to and after completion of the program listed above, for certification, the student must complete an additional 12 hours of Student Teaching in Art, ARED 476V and take the Praxis II exams (concurrent with enrollment in ARED 476V).

For requirements for the M.F.A. degree program in art, see the Graduate School Catalog.

## B.F.A. in Graphic Design

The Bachelor of Fine Arts degree in Graphic Design — often also referred to as visual design, visual communication design or visual communication — will prepare students to be proficient makers and thoughtful problem seekers and solvers in a four-year professional degree program. Students will work seamlessly across a range of media, working to identify appropriate solutions for audience and context. Students will be exposed to a rigorous curriculum covering research, theory, critical thinking, professional practices, conceptual idea-making, all while asking them to formally experiment and refine. The Graphic Design degree focuses on: typography, interactivity, branding and design research, each identified as strongly connected to the design industry, while incorporating the university research initiatives of the School of Art at the University of Arkansas.

### Requirements for Admission to the Fine Arts Degree in Graphic Design

For admission to the B.F.A. in Graphic Design, a student must be a declared Art major in the School of Art and successfully complete the art foundation course sequence of ARTS 1919C Studio Foundation I (Sp, Fa) and ARTS 1929C Studio Foundation II (Sp, Fa). Students also must be enrolled in, or have completed, ARTS 2313 Digital Tools and Concepts (Sp, Fa) and ARTS 3313 Introduction to Typography (Fa). Students must have a 3.0 grade point average and submit an application and a portfolio for review.

### Requirements for the Bachelor of Fine Arts Degree in Graphic Design

In addition to the University Core requirements and the Fulbright College of Arts and Sciences Graduation Requirements (see under College Academic Regulations and Degree Completion Policy), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the university/state minimum core requirements.

ARTS 1919C	Studio Foundation I (Sp, Fa)	9
ARTS 1929C	Studio Foundation II (Sp, Fa)	9
ARTS 2313	Digital Tools and Concepts (Sp, Fa)	3
ARTS 3313	Introduction to Typography (Fa)	3
ARTS 3323	Typographic Systems (Sp)	3
ARTS 3383	User Experience (Fa)	3
ARTS 3393	Identity Design (Fa)	3
ARTS 4303	Professional Development and Seminar (Sp)	3
ARTS 4313	Interactive Language (Sp)	3

ARTS 4323	Technology in Context (Fa)	3
ARTS 4343	Identity Systems (Fa)	3
ARTS 4353	Human Centered Design (Fa)	3
ARTS 4363	Design Co-op (Sp, Fa)	3
ARTS 4373	Advanced Typography (Sp)	3
ARTS 4383	Degree Project (Sp)	3
A minimum of 12 hours in Art Electives		12
At least 15 hours in Art History including:		15
ARHS 2913	Art History Survey I (ACTS Equivalency = ARTA 2003) (Sp, Fa)	
ARHS 2923	Art History Survey II (ACTS Equivalency = ARTA 2103) (Sp, Fa)	
ARHS 4823	History of Graphic Design (Irregular)	
ARHS 4933	Contemporary Art (Fa)	
3 additional hours in any upper-level ARHS		
Elective outside School of Art based on faculty approval		3
PHIL 2003	Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa) ((satisfies University Core humanities requirement))	3

**Writing Requirement:** Students majoring in art will satisfy the Fulbright College writing requirement by successful completion (a grade of at least a "C") in the final paper in one of the following:

ARHS 3923H	Honors Colloquium (Irregular)	3
ARHS 4563	Pre-Columbian Art (Irregular)	3
ARHS 4573	Artists of New Spain (Irregular)	3
ARHS 4743	Medieval Architecture (Irregular)	3
ARHS 4753	Renaissance and Baroque Architecture (Irregular)	3
ARHS 4763	Seminar in Critical Theory (Sp)	3
ARHS 4833	Ancient Art (Irregular)	3
ARHS 4843	Medieval Art (Irregular)	3
ARHS 4853	Italian Renaissance Art (Irregular)	3
ARHS 4863	Northern Renaissance Art (Irregular)	3
ARHS 4873	Baroque Art (Irregular)	3
ARHS 4883	18th and 19th Century European Art (Irregular)	3
ARHS 4893	20th Century European Art (Irregular)	3
ARHS 4913	American Art to 1860 (Irregular)	3
ARHS 4923	American Art 1860-1960 (Irregular)	3
ARHS 4933	Contemporary Art (Fa)	3
ARHS 4963	Individual Research in Art History (Sp, Fa)	3
ARHS 4973	Seminar in Art History (Irregular)	3
ARHS 4983	Special Topics in Art History (Irregular)	3
ARHS 4993	Special Topics in Modern Art (Irregular)	3

or by successful completion (a grade of at least a "C") in a thesis in art history.

## Graphic Design B.F.A. Eight-Semester Degree Program

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	

MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) ((or higher level mathematics))	3	
ARTS 1919C Studio Foundation I (Sp, Fa)	9	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
Social Science University Core requirement		3
ARTS 1929C Studio Foundation II (Sp, Fa)		9
UNIV 1001 University Perspectives (Sp, Su, Fa)		1
Year Total:	15	16

Second Year	Units	
	Fall	Spring
Science University Core lecture with lab	4	
ARHS 2913 Art History Survey I (ACTS Equivalency = ARTA 2003) (Sp, Fa)	3	
Arts Elective	3	
ARTS 2313 Digital Tools and Concepts (Sp, Fa)	3	
ARTS 3313 Introduction to Typography (Fa)	3	
Science University Core lecture with lab		4
ARHS 4823 History of Graphic Design (Irregular)		3
Arts Elective		3
ARTS 3323 Typographic Systems (Sp)		3
Year Total:	16	13

Third Year	Units	
	Fall	Spring
PHIL 2003 Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)	3	
ARHS 2923 Art History Survey II (ACTS Equivalency = ARTA 2103) (Sp, Fa)	3	
Arts Elective	3	
ARTS 3383 User Experience (Fa)	3	
ARTS 3393 Identity Design (Fa)	3	
Social Science University Core lecture		3
U.S. History University Core lecture		3
ARTS 4303 Professional Development and Seminar (Sp)		3
ARTS 4313 Interactive Language (Sp)		3
Arts Elective		3
Year Total:	15	15

Fourth Year	Units	
	Fall	Spring
Social Science University Core lecture	3	
ARHS 4933 Contemporary Art (Fa)	3	
ARTS 4323 Technology in Context (Fa)	3	
ARTS 4343 Identity Systems (Fa)	3	
ARTS 4353 Human Centered Design (Fa)	3	
Non-School of Art Elective		3
ARHS Elective		3
ARTS 4363 Design Co-op (Sp, Fa)		3
ARTS 4373 Advanced Typography (Sp)		3

ARTS 4383 Degree Project (Sp)		3
Year Total:	15	15

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Total Units in Sequence: 120

Internship credit considered in lieu of required studios upon approval of professors, based on content and merit of internship.

## Minor in Art History

**Requirements for a Minor in Art History:** A minimum of 18 semester hours to include:

ARHS 2913	Art History Survey I (ACTS Equivalency = ARTA 2003) (Sp, Fa)	3
ARHS 2923	Art History Survey II (ACTS Equivalency = ARTA 2103) (Sp, Fa)	3
	Three additional art history courses	9
	One course either in art history or studio art	3
Total Hours		18

A student must notify the department of his or her intent to minor. The minor is especially suitable for students majoring in anthropology, English, foreign languages, history, philosophy, and music.

**Requirements for Departmental Honors in Art:** As part of the Honors Studies Program of the J. William Fulbright College of Arts and Sciences, the School of Art provides the opportunity for academically superior junior- and senior-level students to acquire broader and deeper knowledge and skills in the visual arts and related disciplines. This is accomplished through independent research projects in studio art and/or art history under the direction of the art faculty. Outstanding achievement is recognized by awarding the distinction "Art Scholar Cum Laude." Students may apply for honors studies beginning in the second semester of their sophomore year and normally will not be accepted into the program after completion of the second semester of their junior year. The school requires each applicant to have a minimum cumulative grade-point average of 3.5 in all college course work, a minimum grade-point average of 3.5 in all course work taken in the School of Art, completed ARHS 2913 and ARHS 2923, completed at least 20 semester hours of work in art school courses, and at least 30 semester hours of general education requirements. Included in those hours, a student must complete and defend an honors thesis and take 12 hours, which may include 6 hours of thesis, in honors studies. Higher degree distinctions take into consideration the student's entire academic career and are recommended for only those students whose honors projects and programs of study demonstrate a truly exceptional degree of creativity and scholarship.

## Arts and Sciences (ARSC)

Yvette Murphy-Erby  
Chair of Studies  
Old Main 526D  
479-575-4443

Students may enroll in college and off-campus programs (ARSC) under special circumstances and with the approval of the Associate Dean of Fulbright College.

## Asian Studies (AIST)

Ka Zeng  
Chair of Studies

428 Old Main  
479-575-3356  
<http://aist.uark.edu>

Students may pursue Asian studies as a second major alongside a primary major. The program also offers a minor in Asian Studies.

The Asian Studies Program draws on the strength of faculty both in the Fulbright College of Arts and Sciences and in other colleges on campus to provide resources and training in Asian languages, cultures, history, politics and economics. The program strives to provide students with a well-rounded education essential for careers in which knowledge of Asia is vital, promote interdisciplinary research on the Pacific region, and serve as a source of knowledge and expertise for the community.

## Requirements for the Asian Studies Second Major:

**Language Competence:** Students must complete CHIN 2013 (or equivalent) or JAPN 2013 (or equivalent). Subject to the approval of the Director of Studies, students with language competence in one language (Chinese or Japanese) may receive some elective credit for competence level courses in the other language. Proficiency in other Asian languages may also satisfy this requirement.

In addition to the above language requirement, students must complete 21 hours in Asia-related courses, subject to the following conditions:

**Colloquium (3-6 hours):** Students must complete at least three hours in the interdisciplinary colloquium, AIST 4003/AIST 4003H. The AIST Colloquium may be repeated, provided the topic is different.

**Electives (15-18 hours):** In addition to the above requirements and the requirements for the departmental major, students must complete 15-18 hours of Asia-related courses (AIST-approved electives listed below) subject to the following conditions of distribution:

1. Students must complete 6 hours of history courses;
2. Students must complete 6 hours of social science courses;
3. Courses must be selected from at least three different departments;
4. A maximum of nine hours may be submitted from any one department;
5. In addition, the following may be applied toward the major:
  - a. Up to 6 hours of upper-level language courses (such as CHIN 3003, CHIN 3033, CHIN 3103, JAPN 3003, JAPN 3013, JAPN 3033);
  - b. Up to 6 hours of credits in an approved study-abroad program;
  - c. Up to 6 hours of CHIN 3983 or JAPN 3983/JAPN 3983H (Special Studies)
  - d. Other Asia-related courses with approval of the director of Asian Studies

### Approved AIST Electives

CHIN 4313	Culture and Society in China (Sp)	3
ECON 3933	The Japanese Economic System (Sp)	3
ECON 4633	International Trade (Sp, Fa)	3
HIST 3513	History of China to 1644 (Fa)	3
HIST 3523	Modern China (Sp)	3
HIST 4403	Islam in Asia (Irregular)	3
HIST 4553	The Recluse in Early East Asia (Even years, Fa)	3
HIST 4633	Heian Japan (794-1192) (Irregular)	3



	or HIST 4633H Honors Heian Japan (794-1192) (Irregular)	
HIST 4853	Early Chinese Empires: Mythology, Archeology, and Historiography (Sp)	3
HIST 4863	Classical Thought in East Asia (Fa)	3
HIST 4903/4903H	Music and the Arts of Edo Japan 1600-1868 (Irregular)	3
HIST 4913/4913H	Reading Japanese Noh as Cultural History (Irregular)	3
HIST 4923/4923H	Song China 960-1279 (Irregular)	3
HIST 4933/4933H	Ad Paradisum: Utopias, imaginary places, and the afterlife in East Asia (Irregular)	3
JAPN 4213	Japanese Culture (Irregular)	3
JAPN 4313/4313H	Language and Society of Japan (Fa)	3
MUSY 4113H	Honors Pro-Seminar: Honors Ethnomusicology (Irregular)	3
MUSY 4313H	Honors Special Topics in Asian and Middle Eastern Musics (Irregular)	3
MUSY 477V/ MUSY 477VH	Independent Research in Ethnomusicology (Irregular)	1-4
PLSC 3503	Governments and Politics of East Asia (Fa)	3
PLSC 4823	Foreign Policy of East Asia (Sp)	3

HIST 4913/4913H	Reading Japanese Noh as Cultural History (Irregular)	3
HIST 4923/4923H	Song China 960-1279 (Irregular)	3
HIST 4933/4933H	Ad Paradisum: Utopias, imaginary places, and the afterlife in East Asia (Irregular)	3
JAPN 4213	Japanese Culture (Irregular)	3
JAPN 4313/4313H	Language and Society of Japan (Fa)	3
MUSY 4113H	Honors Pro-Seminar: Honors Ethnomusicology (Irregular)	3
MUSY 4313H	Honors Special Topics in Asian and Middle Eastern Musics (Irregular)	3
MUSY 477V/ MUSY 477VH	Independent Research in Ethnomusicology (Irregular)	1-4
PLSC 3503	Governments and Politics of East Asia (Fa)	3
PLSC 4823	Foreign Policy of East Asia (Sp)	3

Students may also apply three hours of credit in an approved study-abroad program in an Asian country and three hours of upper-level Chinese or Japanese toward the minor.

Other courses that include Asia-specific content may be taken for credit toward the secondary major or minor with the approval of the Chair of Asian Studies.

## Requirements for a Minor in Asian Studies:

Students may earn a minor in Asian Studies by taking courses in art, anthropology, economics, geography, history, languages, sociology, political science, and literature of Asia. Students must fulfill the language requirement described below and complete 15 hours in Asia-related courses in order to earn the minor.

**Language Requirement:** Students must complete CHIN 2013 (or equivalent) or JAPN 2013 (or equivalent). At the discretion of the chair of studies, proficiency in other Asian languages may also satisfy this requirement.

Beyond the language requirement, students must complete 15 credit hours of approved courses, including at least three hours in the Asian Studies Colloquium (AIST 4003). The following courses may be taken in fulfillment of the elective requirements:

### Approved AIST Electives

CHIN 4313	Culture and Society in China (Sp)	3
ECON 3933	The Japanese Economic System (Sp)	3
ECON 4633	International Trade (Sp, Fa)	3
HIST 3513	History of China to 1644 (Fa)	3
HIST 3523	Modern China (Sp)	3
HIST 4553	The Recluse in Early East Asia (Even years, Fa)	3
HIST 4633/4633H	Heian Japan (794-1192) (Irregular)	3
HIST 4853	Early Chinese Empires: Mythology, Archeology, and Historiography (Sp)	3
HIST 4863	Classical Thought in East Asia (Fa)	3
HIST 4903/4903H	Music and the Arts of Edo Japan 1600-1868 (Irregular)	3

## Biological Sciences (BISC)

### Faculty

**Adnan Ali-Khalaf Al-Rubaye**, Clinical Assistant Professor

**Andrew James Alverson**, Assistant Professor

**Tameka A. Bailey**, Visiting Assistant Professor

**Ravi Damodar Barabote**, Assistant Professor

**Jeremy M. Beaulieu**, Assistant Professor

**Steven J. Beaupre**, Professor

**Art Brown**, Professor

**Donald G. Catanzaro**, Research Assistant Professor

**Ruben M. Ceballos**, Assistant Professor

**James S. Coleman**, Professor

**Robert Coriden**, Assistant Professor, Deleted from BISC and BIOL in 2017

**Marlis R. Douglas**, Professor, Bruker Life Sciences Chair

**Michael Edward Douglas**, Professor, 21st Century Chair in Global Change Biology

**Yuchun Du**, Associate Professor

**Jeannine M. Durdik**, Professor

**Sally A. Entrekin**, Adjunct Assistant Professor

**William J. Etges**, Professor

**Timothy A. Evans**, Assistant Professor

**Michelle Allayne Evans-White**, Associate Professor

**Randall Feezell**, Instructor

**Johnnie L. Gentry Jr.**, Professor

**Robyn Goforth**, Research Assistant Professor

**Ralph Leroy Henry**, Distinguished Professor, W.M. Keck Endowed Professorship

**Mack Ivey**, Associate Professor

**Shilpa Iyer**, Assistant Professor

**Jackson Jennings**, Instructor

**Timothy Alan Kral**, Professor

**David G. Kremetz**, Research Professor

**Cheri Sue LaRue**, Instructor  
**Michael Herbert Lehmann**, Associate Professor  
**Daniel J. Lessner**, Associate Professor  
**Jeffrey A. Lewis**, Assistant Professor  
**Tammy Lorince**, Instructor  
**Daniel D. Magoulick**, Research Professor  
**David S. McNabb**, Associate Professor  
**Kusum Naithani**, Assistant Professor  
**Ines Pinto**, Associate Professor  
**Douglas Duane Rhoads**, University Professor  
**John D.L. Shadwick**, Instructor  
**Adam M. Siepelski**, Assistant Professor  
**Adam Siepelski**, Assistant Professor  
**Kimberly G. Smith**, Distinguished Professor  
**Frederick W. Spiegel**, Distinguished Professor  
**Steven Lee Stephenson**, Research Professor  
**Christian K. Tipsmark**, Associate Professor  
**Charles Vo**, Instructor  
**James M. Walker**, Professor  
**Kate Ireton Walker**, Instructor  
**Erica L. Westerman**, Assistant Professor  
**John David Willson**, Assistant Professor

Ralph Henry  
 Chair of the Department  
 601 Science Engineering  
 479-575-3251

David S. McNabb  
 Graduate Coordinator  
 601 Science Engineering  
 479-575-3251

Department of Biological Sciences Website (<http://fulbright.uark.edu/departments/biology>)

The Department of Biological Sciences offers a supportive training environment across the full spectrum of biology, bridging the disciplines of cell and molecular biology, physiology, development, genetics, molecular systematics, microbiology, neurobiology, ecology, and evolutionary biology. Through course selection both within and outside the department, our students are prepared to enter research and professional training programs (health, secondary education, law, etc.) or enter careers in government and a broad range of businesses that rely on a technology-literate workforce with analytical and problem-solving skills.

For information on advanced degrees in biology, see the Graduate School Catalog (<http://catalog.uark.edu/graduatecatalog/programsofstudy/biologicalsciencesbisc>).

## Requirements for a B.S. Degree with a Major in Biology

A minimum of 120 hours is required, including 40 hours in the major as specified below.

- BIOL 1584 Biology for Majors<sup>1</sup>
- Biology Core (13 hours):
 

BIOL 2533	Cell Biology (Sp, Fa)	3
BIOL 2323	General Genetics (Sp, Fa)	3
BIOL 3023	Evolutionary Biology (Sp, Fa)	3
BIOL 3863	General Ecology (Sp, Fa)	3

 and a minimum of 1 hour of Core Laboratory selected from:
 

BIOL 2531L	Cell Biology Laboratory (Sp, Fa)	1
BIOL 2321L	General Genetics Laboratory (Sp, Fa)	1
BIOL 3861L	General Ecology Laboratory (Fa)	1

- An additional 23 hours of electives in biology and/or biology related electives including:
  - At least 2 elective courses numbered 2000 or higher which are lab courses. This includes Core Labs taken in addition to the basic Core requirement. Courses whose catalog description explicitly excludes them from counting toward the major may not be used to meet this requirement. (Laboratory courses also include BIOL 480V, BIOL 480VH, BIOL 499V, and BIOL 499VH.)
  - At least 18 hours in BIOL courses numbered 3000 or higher, of which at least 12 hours must be from courses numbered 4000 or higher.
  - A course meeting the Fulbright College writing requirement. (The means of meeting the writing requirement are listed following the description of Requirements for Departmental Honors in Biology.)
  - No more than 4 hours of elective courses at the 1000 level are permitted. BIOL 1543/BIOL 1541L Principles of Biology/Principles of Biology Laboratory may not be applied to the elective requirement.

**Note:** Biology related electives that are not taught by the Department of Biological Sciences must be approved using the "Exception Request for Major or Minor Requirements" form.

- A student who, after completing BIOL 1543/BIOL 1541L Principles of Biology/Lab with a grade of B or better in both courses, wishes to substitute BIOL 1543/BIOL 1541L for the required BIOL 1584 may petition the Department of Biological Sciences to do so. These petitions will be considered on a case by case basis for approval.

## Requirements in cognate science and mathematics include the following:

### Chemistry

CHEM 1103 & CHEM 1101L	University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) and University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa) (may be completed by advanced placement)	4
CHEM 1123 & CHEM 1121L	University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) and University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)	4
CHEM 3603 & CHEM 3601L	Organic Chemistry I (Su, Fa) and Organic Chemistry I Laboratory (Su, Fa)	4
CHEM 3613 & CHEM 3611L	Organic Chemistry II (Sp, Su) and Organic Chemistry II Laboratory (Sp, Su)	4
CHEM 3813	Elements of Biochemistry (Sp, Su, Fa)	3

### Physics

PHYS 2013 & PHYS 2011L	College Physics I (ACTS Equivalency = PHYS 2014 Lecture) (Su, Fa) and College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab) (Su, Fa)	8
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and

PHYS 2033 College Physics II (ACTS Equivalency = PHYS & PHYS 2031L 2024 Lecture) (Sp, Su)  
and College Physics II Laboratory (ACTS Equivalency = PHYS 2024 Lab) (Su)

**Or**

PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa)

and

PHYS 2074 University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa)

**Mathematics**

MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) (MATH 2564 is recommended) 4

**Statistics**

Select one of the following: 3-4

STAT 2023 Biostatistics (Sp)

STAT 4003 Statistical Methods (Sp, Fa)  
& STAT 4001L and Statistics Methods Laboratory (Sp, Fa)

**Requirement in Philosophy, must include one of the following:**

PHIL 2103 or PHIL 2203 or PHIL 3113 or PHIL 4213.

**Writing Requirement:** The college writing requirement for majors in biology may be met by one of the following:

1. Completion of an honors thesis,
2. Completion of a senior thesis (BIOL 498V) supervised by a faculty member in biological sciences,
3. Completion of a required term paper with a grade of B or above in a BIOL course numbered 3000 or above on a topic approved by the instructor, or
4. Completion of a paper, supervised by a Biological Sciences faculty member, in Special Topics (BIOL 480V)

Note<sup>A</sup> A student exercising Option 3 or 4 may not use the paper written for that option for credit in BIOL 498V

**Biology B.S.****Eight-Semester Degree Program**

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area. Students must complete at least 120 hours, and this must be considered when scheduling upper-level hours in the senior year.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
Select one of the following:	3-4	
MATH 1213 Plane Trigonometry (ACTS Equivalency = MATH 1203) (Sp, Su, Fa)		
MATH 1284C Precalculus Mathematics (ACTS Equivalency = MATH 1305) (Sp, Su, Fa)		
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) <sup>1</sup>		

BIOL 1584 Biology for Majors (Sp, Fa) 4

CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa)  
& CHEM 1101L University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa) 4

Select one of the following: 3

HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)

HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)

PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)

Core from Fine Arts

ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa) 3

MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)<sup>1</sup> 4

or MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa)

CHEM 1123 University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa)  
& CHEM 1121L University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa) 4

Select one of the following: 3

University/state core Fine Arts

or US History Requirement from

HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)

HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)

PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)

General Elective 1

Year Total: 17 15

Second Year	Units	
	Fall	Spring
BIOL 2533 Cell Biology (Sp, Fa) (BIOL 2531L optional) <sup>1</sup>	3-4	
CHEM 3603 Organic Chemistry I (Su, Fa) & CHEM 3601L Organic Chemistry I Laboratory (Su, Fa) <sup>1,2</sup>	4	
University/State Core Social Science Requirement or PHIL Requirement	3	
BIOL Lab Course or Approved BIOL-related Elective 2000-level or Above	4	
BIOL 2323 General Genetics (Sp, Fa) & BIOL 2321L General Genetics Laboratory (Sp, Fa) <sup>1</sup>		4

CHEM 3613 Organic Chemistry II (Sp, Su) & CHEM 3611L Organic Chemistry II Laboratory (Sp, Su) <sup>1,2</sup>	4
University/Core from Social Science	3
PHIL requirement or University/State Core from Social Science (as needed)	3
General Elective	3
Year Total:	15 17

Third Year	Units	
	Fall	Spring
BIOL 3023 Evolutionary Biology (Sp, Fa) <sup>1,2</sup>	3	
CHEM 3813 Elements of Biochemistry (Sp, Su, Fa) <sup>1,2</sup>	3	
Select one of the following:	4	
PHYS 2013 College Physics I (ACTS Equivalency = PHYS 2014 Lecture) (Su, Fa) & PHYS 2011L College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab) (Su, Fa) <sup>1</sup>		
PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa)		
Core from Humanities (if needed) or Core from Social Science	3	
Core from Social Science (as needed) or General Elective	3	
Select one of the following:	3-4	
BIOL 3023 Evolutionary Biology (Sp, Fa) (if still needed) <sup>1,2</sup>		
BIOL 3000-4000 Level Elective <sup>1,2</sup>		
BIOL 3863 General Ecology (Sp, Fa) (BIOL 3861L optional) <sup>1,2</sup>	3-4	
Select one of the following:	4	
PHYS 2033 College Physics II (ACTS Equivalency = PHYS 2024 Lecture) (Sp, Su) & PHYS 2031L College Physics II Laboratory (ACTS Equivalency = PHYS 2024 Lab) (Su) <sup>1</sup>		
PHYS 2074 University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa) <sup>1</sup>		
BIOL Lab Course 2000-level or Above	4	
Year Total:	16	15

Fourth Year	Units	
	Fall	Spring
BIOL 3000-4000 Level Elective <sup>1,2</sup>	3-4	
BIOL 4000 Level Elective <sup>1,2</sup>	3-4	
STAT 2023 Biostatistics (Sp) <sup>1</sup>	3	
General Elective	3	
General Elective	3	
BIOL 3000-4000 Level Elective <sup>1,2</sup>		3
BIOL 4000 Level Elective <sup>1,2</sup>		3-4
BIOL 4000 Level Elective <sup>1,2</sup>		3-4
General Elective		1-3
Year Total:	15	10

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Total Units in Sequence: 120

- <sup>1</sup> Meets 40-hour advanced credit hour requirement. See 3 on Graduation Requirements Checklist or see the Catalog of Studies.
- <sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See 2b on Graduation Requirements Checklist or see the Catalog of Studies.

## Requirements for a B.A. Degree with a Major in Biology:

A minimum of 120 hours is required, including:

- BIOL 1584 Biology for Majors. Majors may substitute another 1000-level BIOL course (BIOL 1603/BIOL 1601L Principles of Zoology or BIOL 1613/BIOL 1611L Plant Biology) for BIOL 1584; a maximum of four 1000-level credits may be applied toward the major. A student who, after completing BIOL 1543/BIOL 1541L Principles of Biology/Lab with a grade of B or better in both courses, wishes to substitute BIOL 1543/BIOL 1541L Principles of Biology for BIOL 1584 may petition the Department of Biological Sciences to do so. These petitions will be considered on a case by case basis for approval.
- An additional 26 hours of biological sciences, including:
  - Biology Core (13 hours):
 

BIOL 2533	Cell Biology (Sp, Fa)	3
BIOL 2323	General Genetics (Sp, Fa)	3
BIOL 3023	Evolutionary Biology (Sp, Fa)	3
BIOL 3863	General Ecology (Sp, Fa)	3

 and a minimum of one hour of Core Laboratory selected from:
 

BIOL 2531L	Cell Biology Laboratory (Sp, Fa)	
BIOL 2321L	General Genetics Laboratory (Sp, Fa)	
BIOL 3861L	General Ecology Laboratory (Fa)	
  - Biology Electives (13 hours): must include at least 9 hours in BIOL courses numbered 3000 or higher and at least one course numbered 2000 or higher with a laboratory. (Laboratory courses also include BIOL 480V, BIOL 480VH, BIOL 499V, and BIOL 499VH.)
- Requirements in cognate science and mathematics include:
  - |              |  |   |
|--------------|--|---|
| CHEM 1103    | University Chemistry I (ACTS Equivalency =   | 4 |
| & CHEM 1101L | CHEM 1414 Lecture) (Su, Fa)                  |   |
|              | and University Chemistry I Laboratory (ACTS  |   |
|              | Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)    |   |
| CHEM 1123    | University Chemistry II (ACTS Equivalency =  | 4 |
| & CHEM 1121L | CHEM 1424 Lecture) (Sp, Su, Fa)              |   |
|              | and University Chemistry II Laboratory (ACTS |   |
|              | Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)    |   |

 Select one of the following:
 

CHEM 2613	Organic Physiological Chemistry (ACTS	
& CHEM 2611L	Equivalency = CHEM 1224 Lecture) (Sp, Su,	
	Fa)	
	and Organic Physiological Chemistry Laboratory	
	(ACTS Equivalency = CHEM 1224 Lab) (Sp, Su,	
	Fa)	

CHEM 3603 Organic Chemistry I (Su, Fa)  
& CHEM 3601 and Organic Chemistry I Laboratory (Su, Fa)  
& CHEM 3613 and Organic Chemistry II (Sp, Su)  
& CHEM 3611 and Organic Chemistry II Laboratory (Sp, Su)

**B.**

PHYS 2013 College Physics I (ACTS Equivalency = PHYS 4  
& PHYS 2011L 2014 Lecture) (Su, Fa)  
and College Physics I Laboratory (ACTS  
Equivalency = PHYS 2014 Lab) (Su, Fa)

PHYS 2033 College Physics II (ACTS Equivalency = PHYS 4  
& PHYS 2031L 2024 Lecture) (Sp, Su)  
and College Physics II Laboratory (ACTS  
Equivalency = PHYS 2024 Lab) (Su)

**C.**

MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 3-4  
2203) (Sp, Su, Fa)

or MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp,  
Su, Fa)

**D.**

Select one of the following: 3-4

STAT 2023 Biostatistics (Sp)

STAT 2303 Principles of Statistics (ACTS Equivalency =  
MATH 2103) (Sp, Su, Fa)

STAT 4003 Statistical Methods (Sp, Fa)  
& STAT 4001L and Statistics Methods Laboratory (Sp, Fa)

MATH 2183 Mathematical Reasoning in a Quantitative World  
(Sp, Fa)

## 4. Requirement in Philosophy

Select one of the following: 3

PHIL 2103 Introduction to Ethics (ACTS Equivalency =  
PHIL 1003) (Sp, Su, Fa)

PHIL 2203 Logic (ACTS Equivalency = PHIL 1003) (Sp, Su,  
Fa)

PHIL 3113 Environmental Ethics (Irregular)

PHIL 4213 Philosophy of Science (Irregular)

5. Students must complete a minimum of 20 credit hours at the 3000-level or higher from requirements 2, 3, and 4 listed above or from a combination of requirements 2, 3, and 4 above and from additional 3000-level or higher BIOL upper-level electives.

**Writing Requirement:** The college writing requirement for majors in biology may be met by one of the following:

1. Completion of an honors thesis,
2. Completion of a senior thesis (BIOL 498V) supervised by a faculty member in biological sciences,
3. Completion of a required term paper with a grade of B or above in a BIOL course numbered 3000 or above on a topic approved by the instructor, or
4. Completion of a paper, supervised by a Biological Sciences faculty member, in Special Topics (BIOL 480V)

**Note** A student exercising Option 3 or 4 may not use the paper written for that option for credit in BIOL 498V

**Biology B.A.****Eight-Semester Degree Program**

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

**First Year**

	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
Select one of the following:	3-4	
MATH 1213 Plane Trigonometry (ACTS Equivalency = MATH 1203) (Sp, Su, Fa)		
MATH 1284C Precalculus Mathematics (ACTS Equivalency = MATH 1305) (Sp, Su, Fa)		
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) <sup>1</sup>		
BIOL 1584 Biology for Majors (Sp, Fa)	4	
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) & CHEM 1101L University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)	4	
General Elective	0-1	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) <sup>1</sup> or MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)		3
CHEM 1123 University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) & CHEM 1121L University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)		4
Select one of the following:		3
HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)		
HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)		
PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)		
Core from Fine Arts		3
Year Total:	15	16

**Second Year**

	Units	
	Fall	Spring
BIOL 2533 Cell Biology (Sp, Fa) (BIOL 2531L optional) <sup>1</sup>	3	
Select from the following:	4	

CHEM 3603 Organic Chemistry I (Su, Fa) & CHEM 3601L Organic Chemistry I Laboratory (Su, Fa) <sup>1,2</sup>					
or					
BIOL 2323 General Genetics (Sp, Fa) & BIOL 2321L General Genetics Laboratory (Sp, Fa) <sup>1</sup>					
University/state core from Social Science	3				
University/state core from Social Science (as needed) or General Elective	3				
General Elective	3				
Select one of the following:		3-4			
BIOL 2323 General Genetics (Sp, Fa) & BIOL 2321L General Genetics Laboratory (Sp, Fa) <sup>1</sup>					
Biology elective					
BIOL 3023 Evolutionary Biology (Sp, Fa) <sup>1,2</sup>					
Select one of the following:		4			
CHEM 3613 Organic Chemistry II (Sp, Su) & CHEM 3611L Organic Chemistry II Laboratory (Sp, Su) <sup>1,2</sup>					
CHEM 2613 Organic Physiological Chemistry (ACTS Equivalency = CHEM 1224 Lecture) (Sp, Su, Fa) & CHEM 2611L Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su, Fa) <sup>1</sup>					
Select one of the following:		3			
PHIL 2103 Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)					
PHIL 2203 Logic (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa) <sup>1</sup>					
PHIL 3113 Environmental Ethics (Irregular) <sup>1,2</sup>					
PHIL 4213 Philosophy of Science (Irregular) <sup>1,2</sup>					
University/state core Social Science requirement (as needed)					
University/state core from Humanities (as needed) or General Elective	3				
General Elective or Core from Social Science (as needed)	3				
Year Total:	16	16			
<b>Third Year</b>					
			<b>Fall</b>	<b>Spring</b>	<b>Units</b>
One of the following:		3-4			
BIOL 3023 Evolutionary Biology (Sp, Fa) <sup>1,2</sup>					
BIOL 3863 General Ecology (Sp, Fa) & BIOL 3861L General Ecology Laboratory (Fa) <sup>1,2</sup>					
Biology Elective					
Biology elective	3-4				
PHYS 2013 College Physics I (ACTS Equivalency = PHYS 2014 Lecture) (Su, Fa) & PHYS 2011L College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab) (Su, Fa) <sup>1</sup>	4				
Select one of the following:		3-4			
STAT 2023 Biostatistics (Sp) <sup>1</sup>					
STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa) <sup>1</sup>					
STAT 4003 Statistical Methods (Sp, Fa) & STAT 4001L Statistics Methods Laboratory (Sp, Fa) <sup>1,2</sup>					
MATH 2183 Mathematical Reasoning in a Quantitative World (Sp, Fa) <sup>1,2</sup>					
Select one of the following as needed:			3		
Core from social science (if needed)					
PHIL 2103 Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)					
PHIL 2203 Logic (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa) <sup>1</sup>					
PHIL 3113 Environmental Ethics (Irregular) <sup>1,2</sup>					
PHIL 4213 Philosophy of Science (Irregular) <sup>1,2</sup>					
Select one of the following:				3-4	
BIOL 3863 General Ecology (Sp, Fa) & BIOL 3861L General Ecology Laboratory (Fa) <sup>1,2</sup>					
BIOL 3023 Evolutionary Biology (Sp, Fa) ((if still needed) or) <sup>1,2</sup>					
BIOL 3000-4000 Level Elective <sup>1,2</sup>				3-4	
BIOL 3000-4000 Level Elective <sup>1,2</sup>					3-4
PHYS 2033 College Physics II (ACTS Equivalency = PHYS 2024 Lecture) (Sp, Su) & PHYS 2031L College Physics II Laboratory (ACTS Equivalency = PHYS 2024 Lab) (Su) <sup>1</sup>					4
General Electives					6
Year Total:			18		18
<b>Fourth Year</b>					
				<b>Fall</b>	<b>Spring</b>
BIOL 3000-4000 Level Biology Elective <sup>1,2</sup>			3-4		
BIOL 3000-4000 Level Biology Elective <sup>1,2</sup>			3-4		
General Electives			6		
BIOL 3000-4000 Level Elective <sup>1,2</sup>					3-4
BIOL 3000-4000 Level Elective <sup>1,2</sup>					3-4
Upper Level Elective in Fulbright College (if needed for 24-hour rule) or General Elective					3
General Electives (as needed to total 120 degree hours)					3-4
Year Total:			12		9
Total Units in Sequence:					120
<sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations (p. 183). <sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations (p. 183).					
<b>Requirements for a Minor in Biology:</b>					
Students must complete at least 19 credit hours of BIOL courses that include:					

1. BIOL 1584 Biology for Majors (Sp, Fa) or BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa)/BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)
2. Three of the four biology core courses: BIOL 2533 Cell Biology (Sp, Fa), BIOL 2323 General Genetics (Sp, Fa), BIOL 3023 Evolutionary Biology (Sp, Fa), BIOL 3863 General Ecology (Sp, Fa).
3. Two additional BIOL courses, one of which must be a BIOL course numbered 3000 or above. This may include an additional BIOL core course.

Students must notify their academic dean's office of their intent to minor in biology.

**Requirements for Departmental Honors in Biology:** The biological sciences honors program is designed to provide students an opportunity to investigate questions in biology through an expanded reading program and research experience. Biological science majors may apply to enter the program between the second semester of the sophomore year and the end of the junior year. Application is made through both Honors Studies (MAIN 517) and the Department of Biological Sciences (SCEN 601). Applicants must have a 3.5 grade-point average. Students should consult with their adviser to identify and contact a potential faculty research mentor. The student's research activities will then be directed by the departmental faculty member who agrees to sponsor the student.

Students may enroll for up to four hours of credit in BIOL 499VH during the junior year and up to eight hours of credit in BIOL 499VH during the senior year. A maximum of six of these credits may be applied toward a major. Participants must complete and defend an honors thesis and take 12 hours in Honors Studies, which may include six hours of thesis. The honors thesis is based on an original research project and presented orally before a committee composed of two faculty from the biological sciences, a person from outside the biological sciences, and a representative from the Honors Council. This committee makes a recommendation concerning the award of the honors distinction to the Honors Council. Students who successfully complete the departmental honors program usually graduate as "Departmental Scholar *Cum Laude*." Higher degree distinctions are recommended only in exceptional cases and are based upon the candidate's entire involvement in the honors program. Completion of an honors thesis fulfills the writing requirement in biological sciences, which precludes credit for BIOL 498V (Senior Thesis) for the same body of work.

#### **Biology (B.A. or B.S.) Life/Earth Science Teacher Licensure**

**Requirements:** Please refer to the Secondary Education Requirements (p. 186) for Fulbright College Students.

Students wishing to pursue licensure through the UAteach undergraduate curriculum should consult with a UAteach adviser, [uteach@uark.edu](mailto:uteach@uark.edu).

## **Chemistry and Biochemistry (CHBC)**

### **Faculty**

**Paul D. Adams**, Associate Professor  
**Neil T. Allison**, Associate Professor  
**Lorraine C. Brewer**, Instructor  
**Jingyi Chen**, Associate Professor  
**Robert Coridan**, Assistant Professor  
**Chenguang Fan**, Assistant Professor  
**Ingrid Fritsch**, Professor

**Denise A. Greathouse**, Research Associate Professor  
**David Hayes**, Instructor  
**Margaret Hershberger**, Instructor  
**Colin David Heyes**, Associate Professor  
**Stefan M. Kilyanek**, Assistant Professor  
**Roger E. Koeppe II**, Distinguished Professor  
**Jackson Lay Jr.**, Professor  
**Hershberger Margaret**, Instructor  
**Chris Mazzanti**, Instructor  
**Matt McIntosh**, Professor  
**Frank Millett**, Distinguished Professor  
**Mahmoud Moradi**, Assistant Professor  
**Mya A. Norman**, Instructor  
**David W. Paul**, Associate Professor  
**Latisha Puckett**, Instructor  
**Joshua Sakon**, Professor  
**Wei Shi**, Assistant Professor  
**Julie A. Stenken**, Professor, 21st Century Chair of Proteomics  
**Wesley Stites**, Professor  
**Susanne Striegler**, Professor  
**Suresh Thallapuranam**, Professor  
**Ryan Tian**, Associate Professor  
**Feng Wang**, Associate Professor  
**Charles L. Wilkins**, Distinguished Professor  
**Jie Xiao**, Associate Professor, Arkansas Research Alliance Scholar  
**Nan Zheng**, Associate Professor

Wesley Stites  
 Chair of the Department

Matt McIntosh  
 Vice Chair of the Department  
 119 Chemistry  
 479-575-4601  
[cheminfo@uark.edu](mailto:cheminfo@uark.edu)

Department of Chemistry and Biochemistry Website (<http://fulbright.uark.edu/departments/chemistry>)

The Department of Chemistry and Biochemistry offers two degree programs leading to either Bachelor of Science degree or a Bachelor of Arts degree.

The Bachelor of Science degree offers students one of three concentrations: a chemistry concentration, a biophysical concentration and a biochemistry concentration.

The Bachelor of Arts degree offers students the choice of two concentrations: a chemistry concentration and a biochemistry concentration.

Students with satisfactory performance on the chemistry proficiency exam and who completed CHEM 1123 on the Fayetteville campus with grade of "C" or better can request credit for CHEM 1103.

### **Chemistry, Bachelor of Science Degree**

**Requirements for a B.S. degree with a Major in Chemistry:** In addition to the University Core requirements and the Fulbright College of Arts and Sciences Graduation Requirements, the following course requirements must be met. Bolded courses from the list below may be applied to portions of the University Core requirements.

A Minimum of 40 Semester Hours in Chemistry including:

8 hours of one of the two following sequences: 8

CHEM 1203 Chemistry for Majors I (Fa)  
& CHEM 1201L and Chemistry for Majors I Laboratory (Fa)

CHEM 1223 Chemistry for Majors II (Sp)  
& CHEM 1221L and Chemistry for Majors II Laboratory (Sp)

or

CHEM 1103 University Chemistry I (ACTS Equivalency =  
& CHEM 1101L CHEM 1414 Lecture) (Su, Fa)  
and University Chemistry I Laboratory (ACTS  
Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)

CHEM 1123 University Chemistry II (ACTS Equivalency =  
& CHEM 1121L CHEM 1424 Lecture) (Sp, Su, Fa)  
and University Chemistry II Laboratory (ACTS  
Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)

CHEM 2263 Analytical Chemistry Lecture (Sp, Fa) 4  
& CHEM 2261L and Analytical Chemistry Laboratory (Sp, Fa)

CHEM 3504 Physical Chemistry I (Fa) 4

CHEM 3512L Physical Chemistry Laboratory (Sp) 2

CHEM 3514 Physical Chemistry II (Sp) 4

CHEM 3703 Organic Chemistry I Lecture for Chemistry Majors 5  
& CHEM 3702L (Fa)  
and Organic Chemistry I Lab for Chemistry Majors  
(Fa)

CHEM 3713 Organic Chemistry II Lecture for Chemistry Majors 5  
& CHEM 3712L (Sp)  
and Organic Chemistry II Lab for Chemistry Majors  
(Sp)

CHEM 4123 Advanced Inorganic Chemistry I (Fa) 3

CHEM 4213 Instrumental Analysis (Sp) 4  
& CHEM 4211L and Instrumental Analysis Laboratory (Sp)

CHEM 4723 Experimental Methods in Organic Chemistry (Fa) 3

And at least one additional Advanced Lecture course is required. 3

A minimum of 18 hours of science outside of chemistry are required,  
including math through:

MATH 2574 Calculus III (ACTS Equivalency = MATH 2603) 4  
(Sp, Su, Fa) (Mathematics through MATH 2574)

and physics through:

PHYS 2074 University Physics II (ACTS Equivalency = PHYS 4  
2044 Lecture) (Sp, Su, Fa) (Physics through PHYS  
2074)

These mathematics and physics courses are prerequisites for some  
advanced courses and should be scheduled early in the student's  
program. Some work in the biological sciences is recommended.

This program meets the minimum requirements for certification  
by the American Chemical Society if CHEM 3813 (or  
CHEM 4813H/CHEM 4843H or CHEM 5813/) is included. Sample  
schedules may be obtained from the department of chemistry and  
biochemistry. Prospective students should consult a departmental adviser.

**Writing Requirement:** Chemistry majors will satisfy the Fulbright  
College writing requirement by satisfactory completion of the formal  
research/analytical reports required in Physical Chemistry Laboratory,  
CHEM 3451L or CHEM 3512L.

## Chemistry B.S.

### Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the  
Eight-Semester Degree Policy (p. 73) in the Academic Regulations  
chapter for university requirements of the program. Core requirement  
hours may vary by individual, based on placement and previous credit  
granted. Once all core requirements are met, students may substitute a  
three-hour (or more) general elective in place of a core area. Students  
must complete at least 124 hours and this must be considered when  
scheduling upper-level hours in the senior year.

This program meets the minimum requirements for certification  
by the American Chemical Society if CHEM 3813 (or  
CHEM 4813H/CHEM 4843H or CHEM 5813/CHEM 5843) is included.

	Units	
	Fall	Spring
<b>First Year</b>		
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) <sup>1</sup>		4
Select one of the following:		4
CHEM 1203 Chemistry for Majors I (Fa) & CHEM 1201L Chemistry for Majors I Laboratory (Fa)		
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) & CHEM 1101L University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)		
University/State Core U.S. History requirement	3	
General Elective	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa) <sup>1</sup>		4
Select one of the following:		4
CHEM 1223 Chemistry for Majors II (Sp) & CHEM 1221L Chemistry for Majors II Laboratory (Sp)		
CHEM 1123 University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) & CHEM 1121L University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)		
University/State Core Social Science requirement		3
Year Total:	17	14

	Units	
	Fall	Spring
<b>Second Year</b>		
MATH 2574 Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa) <sup>1</sup>	4	
PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa) <sup>1</sup>		4



CHEM 3703 Organic Chemistry I Lecture for Chemistry Majors (Fa) & CHEM 3702L Organic Chemistry I Lab for Chemistry Majors (Fa) <sup>1,2</sup>	5	
University/State Core Fine Arts or Humanities requirement	3	
PHYS 2074 University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa) <sup>1</sup>	4	
CHEM 3713 Organic Chemistry II Lecture for Chemistry Majors (Sp) & CHEM 3712L Organic Chemistry II Lab for Chemistry Majors (Sp) <sup>1,2</sup>	5	
University/State Core Humanities or Fine Arts requirement (as needed)	3	
University/State Core Social Science requirement	3	
Year Total:	16	15

**Third Year**

	Units	
	Fall	Spring
CHEM 3504 Physical Chemistry I (Fa) <sup>1,2</sup>	4	
CHEM 2263 Analytical Chemistry Lecture (Sp, Fa) & CHEM 2261L Analytical Chemistry Laboratory (Sp, Fa) <sup>1</sup>	4	
Select one of the following:	3-4	
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa) <sup>1</sup> General Elective		
University/State Core Social Science requirement	3	
CHEM 3514 Physical Chemistry II (Sp) & CHEM 3512L Physical Chemistry Laboratory (Sp) <sup>1,2</sup>		6
Advanced Level Elective Course <sup>1</sup>		4
Select one of the following:	3-4	
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa) General Elective		
General Elective		3
Year Total:	14	16

**Fourth Year**

	Units	
	Fall	Spring
CHEM 4123 Advanced Inorganic Chemistry I (Fa) <sup>1,2</sup>	3	
CHEM 4723 Experimental Methods in Organic Chemistry (Fa) <sup>1,2</sup>	3	
CHEM 3813 Elements of Biochemistry (Sp, Su, Fa) <sup>1,2</sup>	3	
CHEM Elective	3	
General Elective	3	

CHEM 4213 Instrumental Analysis (Sp) & CHEM 4211L Instrumental Analysis Laboratory (Sp) <sup>1,2</sup>	4	
CHEM 4853 Biochemical Techniques (Sp) <sup>1,2</sup>	3	
General Electives (as needed to total 120)	6	
Year Total:	15	13
Total Units in Sequence:		120

<sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations on page 131 of this chapter

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations on page 131 of this chapter.

**Requirements for a B.S. degree with a Major in Chemistry,**

**Biophysical Concentration:** In addition to the university/state core requirements and the Fulbright College of Arts and Sciences Graduation Requirements (see College Academic Regulations and Degree Completion Policy), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the University Core requirements.

A Minimum of 43 Semester Hours in Chemistry including:

One of the following sequences:	8
<b>CHEM 1203</b> Chemistry for Majors I (Fa) & <b>CHEM 1201L</b> Land Chemistry for Majors I Laboratory (Fa)	
and	
<b>CHEM 1223</b> Chemistry for Majors II (Sp) & <b>CHEM 1221L</b> Land Chemistry for Majors II Laboratory (Sp)	
or	
<b>CHEM 1103</b> University Chemistry I (ACTS Equivalency = & <b>CHEM 1101L</b> CHEM 1414 Lecture) (Su, Fa) and University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)	
and	
<b>CHEM 1123</b> University Chemistry II (ACTS Equivalency = & <b>CHEM 1121L</b> CHEM 1424 Lecture) (Sp, Su, Fa) and University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)	
<b>CHEM 2263</b> Analytical Chemistry Lecture (Sp, Fa) 4 & <b>CHEM 2261L</b> and Analytical Chemistry Laboratory (Sp, Fa)	
<b>CHEM 3504</b> Physical Chemistry I (Fa) 4	
Select one of the following sequences:	8 - 10
<b>CHEM 3603</b> Organic Chemistry I (Su, Fa) & <b>CHEM 3601L</b> Land Organic Chemistry I Laboratory (Su, Fa)	
and	
<b>CHEM 3613</b> Organic Chemistry II (Sp, Su) & <b>CHEM 3611L</b> Land Organic Chemistry II Laboratory (Sp, Su)	
or	
<b>CHEM 3703</b> Organic Chemistry I Lecture for Chemistry Majors & <b>CHEM 3702L</b> (Fa) and Organic Chemistry I Lab for Chemistry Majors (Fa)	
and	

CHEM 3713 & CHEM 3712L	Organic Chemistry II Lecture for Chemistry Majors (Sp) and Organic Chemistry II Lab for Chemistry Majors (Sp)	
CHEM 3514 & CHEM 3512L	Physical Chemistry II (Sp) and Physical Chemistry Laboratory (Sp)	6
CHEM 4213 & CHEM 4211L	Instrumental Analysis (Sp) and Instrumental Analysis Laboratory (Sp)	4
	and either:	3
	CHEM 4853 Biochemical Techniques (Sp)	
	Or completion of a senior thesis based on independent research wherein at least one credit hour is earned in:	
	CHEM 400V Chemistry Research (Sp, Su, Fa)	
	during each of 3 different semesters.	
	Select six hours from one of the following sequences:	6
	CHEM 5813 and CHEM 5843	
	CHEM 4813H and CHEM 4843H	
	CHEM 3813 and CHEM 4723	
MATH 2554	Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	4
MATH 2564	Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa)	4
PHYS 2054	University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa) (With Lab Component)	4
PHYS 2074	University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa) (With Lab Component)	4
	11 Hours from the Biological Sciences to include:	11
BIOL 1543 & BIOL 1541L	Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	
BIOL 2533 & BIOL 2531L	Cell Biology (Sp, Fa) and Cell Biology Laboratory (Sp, Fa)	
	And one additional lecture course numbered above 3000.	
	The mathematics and physics courses are prerequisites for some advanced courses and should be scheduled early in the student's program.	
Total Hours		70-72

The mathematics and physics courses are prerequisites for some advanced courses and should be scheduled early in the student's program.

**Writing Requirement:** Chemistry majors will satisfy the Fulbright College writing requirement by satisfactory completion of the formal research/analytical reports required in Physical Chemistry Laboratory, CHEM 3451L or CHEM 3512L.

## Chemistry B.S. with Biophysical Option Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

	First Year	
	Fall	Units Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) & CHEM 1101L University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)	4	
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) <sup>1</sup>	4	
University/State Core Fine Arts or Humanities Course	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa) <sup>1</sup>		4
CHEM 1123 University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) & CHEM 1121L University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)		4
University/State Core Humanities or Fine Arts course (as needed)		3
University/State Core U.S. History Course		3
Year Total:	14	17

	Second Year	
	Fall	Units Spring
CHEM 3603 Organic Chemistry I (Su, Fa) & CHEM 3601L Organic Chemistry I Laboratory (Su, Fa) <sup>1,2</sup>	4	
PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa) <sup>1</sup>	4	
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	4	
University/State Core Social Science Course	3	
CHEM 3613 Organic Chemistry II (Sp, Su) & CHEM 3611L Organic Chemistry II Laboratory (Sp, Su) <sup>1,2</sup>		4
PHYS 2074 University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa) <sup>1</sup>		4
BIOL 2533 Cell Biology (Sp, Fa) & BIOL 2531L Cell Biology Laboratory (Sp, Fa)		4
CHEM 2263 Analytical Chemistry Lecture (Sp, Fa) <sup>1</sup>		3
Year Total:	15	15

	Third Year	
	Fall	Units Spring
CHEM 2261L Analytical Chemistry Laboratory (Sp, Fa) <sup>1</sup>	1	
CHEM 3504 Physical Chemistry I (Fa) <sup>1,2</sup>	4	
Advanced Level Elective <sup>1</sup>	6	
University/State Core Social Science Course	3	

CHEM 3514 Physical Chemistry II (Sp) & CHEM 3512L Physical Chemistry Laboratory (Sp) <sup>1,2</sup>	6	
CHEM 4213 Instrumental Analysis (Sp) & CHEM 4211L Instrumental Analysis Laboratory (Sp) <sup>1,2</sup>	4	
University/State Core Social Science Course	3	
General Elective	3	
Year Total:	14	16

Fourth Year	Units	
	Fall	Spring
CHEM 5813 Biochemistry I (Fa) <sup>1,2</sup> or CHEM 4813H Honors Biochemistry I (Fa)	3	
BIOL 3000/4000 Level Elective <sup>1,2</sup>	3	
General Electives	9	
CHEM 5843 Biochemistry II (Sp) <sup>1,2</sup> or CHEM 4843H Honors Biochemistry II (Sp)		3
CHEM 4853 Biochemical Techniques (Sp) <sup>1,2</sup>		3
General Electives		8
Year Total:	15	14

Total Units in Sequence: 120

<sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations.

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations.

#### Requirements for a B.S. degree with a Major in Chemistry,

**Biochemistry Concentration:** In addition to the University Core (p. 81) requirements and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183) (see College Academic Regulations and Degree Completion Policy (p. 73)), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the University Core requirements.

A Minimum of 38 Semester Hours in Chemistry including:

One of the following sequences of courses:	8
CHEM 1203 Chemistry for Majors I (Fa) & CHEM 1201L and Chemistry for Majors I Laboratory (Fa)	
and	
CHEM 1223 Chemistry for Majors II (Sp) & CHEM 1221L and Chemistry for Majors II Laboratory (Sp)	
or	
CHEM 1103 University Chemistry I (ACTS Equivalency = & CHEM 1101L CHEM 1414 Lecture) (Su, Fa) and University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)	
and	
CHEM 1123 University Chemistry II (ACTS Equivalency = & CHEM 1121L CHEM 1424 Lecture) (Sp, Su, Fa) and University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)	
CHEM 2263 Analytical Chemistry Lecture (Sp, Fa) & CHEM 2261L and Analytical Chemistry Laboratory (Sp, Fa)	4

Select from the following: 4 -  
10

CHEM 3504 Physical Chemistry I (Fa)	
and	
CHEM 3514 Physical Chemistry II (Sp) & CHEM 3512L and Physical Chemistry Laboratory (Sp)	
or	
CHEM 3453 Elements of Physical Chemistry (Fa) & CHEM 3451L and Elements of Physical Chemistry Laboratory (Fa)	
CHEM 3703 Organic Chemistry I Lecture for Chemistry Majors & CHEM 3702L (Fa) and Organic Chemistry I Lab for Chemistry Majors (Fa)	5
CHEM 3713 Organic Chemistry II Lecture for Chemistry Majors & CHEM 3712L (Sp) and Organic Chemistry II Lab for Chemistry Majors (Sp)	5
Either	3
CHEM 4853 Biochemical Techniques (Sp) Or completion of a senior thesis based on independent research wherein at least 1 credit hour is earned in CHEM 400V (chemistry research) and/or CHEM 498V (senior thesis) during each of 3 different semesters.	

One of the following sequences: 6

CHEM 4813H and CHEM 4843H	
CHEM 3813 and CHEM 4723	
CHEM 4213 Instrumental Analysis (Sp) & CHEM 4211L and Instrumental Analysis Laboratory (Sp) or CHEM 4123 Advanced Inorganic Chemistry I (Fa)	3-4

Additional Required Courses to Include:

MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	4
MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa)	4

Select one of the following physics sequences: 8

PHYS 2013 College Physics I (ACTS Equivalency = PHYS & PHYS 2011L 2014 Lecture) (Su, Fa) and College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab) (Su, Fa)	
and	
PHYS 2033 College Physics II (ACTS Equivalency = PHYS & PHYS 2031L 2024 Lecture) (Sp, Su) and College Physics II Laboratory (ACTS Equivalency = PHYS 2024 Lab) (Su)	
or	
PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa) (With Lab Component)	
and	
PHYS 2074 University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa) (With Lab Component)	

15 Hours of Biological Sciences to include:

BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL & BIOL 1541L 1014 Lecture) (Sp, Su, Fa) and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	4
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BIOL 2533 & BIOL 2531L	Cell Biology (Sp, Fa) and Cell Biology Laboratory (Sp, Fa)	4	MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) <sup>1</sup>	4
BIOL 2013 & BIOL 2011L	General Microbiology (ACTS Equivalency = BIOL 2004 Lecture) (Sp, Su, Fa) and General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa)	4	or MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa)	
BIOL 4233 or BIOL 2323	Genomics and Bioinformatics (Sp) General Genetics (Sp, Fa)	3	Select one of the following:	4
			CHEM 1223 Chemistry for Majors II (Sp) & CHEM 1221L Chemistry for Majors II Laboratory (Sp)	
			CHEM 1123 University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) & CHEM 1121L University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)	
The mathematics and physics courses are prerequisites for some advanced courses and should be scheduled early in the student's program.				
Total Hours		69-76		

**Writing Requirement:** Chemistry majors will satisfy the Fulbright College writing requirement by satisfactory completion of the formal research/analytical reports required in Physical Chemistry Laboratory, CHEM 3451L or CHEM 3512L.

## Chemistry B.S. with Biochemistry Option Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

This program meets the minimum requirements for certification by the American Chemical Society if CHEM 3813 (or CHEM 4813H/CHEM 4843H) is included.

First Year	Units		Second Year	Units	
	Fall	Spring		Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3		Select one of the following as needed:	3-4	
Select one of the following:	4		MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa) (if not already taken) <sup>1</sup>		
MATH 1213 Plane Trigonometry (ACTS Equivalency = MATH 1203) (Sp, Su, Fa)			University/state core U.S. history requirement (as needed)		
MATH 1284C Precalculus Mathematics (ACTS Equivalency = MATH 1305) (Sp, Su, Fa)			Select one of the following:	4	
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) <sup>1</sup>			PHYS 2013 College Physics I (ACTS Equivalency = PHYS 2014 Lecture) (Su, Fa) & PHYS 2011L College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab) (Su, Fa) <sup>1</sup>		
Select one of the following:	4		PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa) <sup>1,3</sup>		
CHEM 1203 Chemistry for Majors I (Fa) & CHEM 1201L Chemistry for Majors I Laboratory (Fa)			CHEM 3703 Organic Chemistry I Lecture for Chemistry Majors (Fa)	5	
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) & CHEM 1101L University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)			& CHEM 3702L Organic Chemistry I Lab for Chemistry Majors (Fa) <sup>1,2</sup>		
University/State Core Fine Arts or Humanities requirement	3		University/State Core Social Science requirement	3	
University/State Core U.S. History requirement if taking MATH 1213	0-3		Select one of the following:	4	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)	3		PHYS 2033 College Physics II (ACTS Equivalency = PHYS 2024 Lecture) (Sp, Su) & PHYS 2031L College Physics II Laboratory (ACTS Equivalency = PHYS 2024 Lab) (Su) <sup>1</sup>		
			PHYS 2074 University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa) <sup>1</sup>		
			CHEM 3713 Organic Chemistry II Lecture for Chemistry Majors (Sp)	5	
			& CHEM 3712L Organic Chemistry II Lab for Chemistry Majors (Sp) <sup>1,2</sup>		
			BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	4	
			CHEM 2263 Analytical Chemistry Lecture (Sp, Fa) <sup>1,2</sup>	3	

Year Total: 15 16

Third Year	Units	
	Fall	Spring
CHEM 3453 Elements of Physical Chemistry (Fa) & CHEM 3451L Elements of Physical Chemistry Laboratory (Fa) <sup>1,2</sup>	4	
CHEM 2261L Analytical Chemistry Laboratory (Sp, Fa) <sup>1</sup>	1	
BIOL 2533 Cell Biology (Sp, Fa) & BIOL 2531L Cell Biology Laboratory (Sp, Fa)	4	
University/State Core Social Science requirements	3	
General Elective	3	
Select one of the following:		3-4
CHEM 4213 Instrumental Analysis (Sp) & CHEM 4211L Instrumental Analysis Laboratory (Sp) <sup>1,2</sup>		
CHEM 4123 Advanced Inorganic Chemistry I (Fa) <sup>1,2</sup>		
BIOL 2013 General Microbiology (ACTS Equivalency = BIOL 2004 Lecture) (Sp, Su, Fa) & BIOL 2011L General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa)		4
3000+ General Elective (if CHEM 4123 is taken), else General Elective		3
General Electives		6
Year Total:	15	16

Fourth Year	Units	
	Fall	Spring
CHEM 4813H Honors Biochemistry I (Fa) <sup>1,2</sup>	3	
BIOL 2323 General Genetics (Sp, Fa) & BIOL 2321L General Genetics Laboratory (Sp, Fa) <sup>1,2</sup>	3	
or BIOL 4233 Genomics and Bioinformatics (Sp)		
3000+ General Elective (if BIOL 2323 is taken), else General Elective	3	
General Electives	6	
CHEM 4843H Honors Biochemistry II (Sp) <sup>1,2</sup>		3
CHEM 4853 Biochemical Techniques (Sp) <sup>1,2</sup>		3
General Electives as needed to complete 120-hour requirement		6
Year Total:	15	12

Total Units in Sequence: 120

- <sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations on page 131 of this chapter.
- <sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations on page 131 of this chapter.
- <sup>3</sup> PHYS 2054 Calculus Based University Physics (pre- or co-requisite MATH 2554) and PHYS 2074 (pre- or co-requisite MATH 2564), is a better choice for students interested in graduate school.

## Requirements for a B.A. degree with a Major in Chemistry with Chemistry Concentration:

In addition to the University Core requirements and the Fulbright College of Arts and Sciences Graduation Requirements, the following course requirements must be met. Bolded courses from the list below may be applied to portions of the university/state minimum core requirements.

Completion of a World Language Course at the 2003 Intermediate I level.

Select one of the following: 8

**CHEM 1203** Chemistry for Majors I (Fa)  
& CHEM 1201L and Chemistry for Majors I Laboratory (Fa)  
& CHEM 1223 and Chemistry for Majors II (Sp)  
& CHEM 1221L and Chemistry for Majors II Laboratory (Sp)

**CHEM 1103** University Chemistry I (ACTS Equivalency =  
& CHEM 1101L CHEM 1414 Lecture) (Su, Fa)  
& CHEM 1123 and University Chemistry I Laboratory (ACTS  
& CHEM 1121L Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)  
and University Chemistry II (ACTS Equivalency =  
CHEM 1424 Lecture) (Sp, Su, Fa)  
and University Chemistry II Laboratory (ACTS  
Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)

**CHEM 2263** Analytical Chemistry Lecture (Sp, Fa) 4  
& CHEM 2261L and Analytical Chemistry Laboratory (Sp, Fa)

Select one of the following: 8

**CHEM 3703** Organic Chemistry I Lecture for Chemistry Majors  
& CHEM 3702L (Fa)  
& CHEM 3713 and Organic Chemistry I Lab for Chemistry Majors  
& CHEM 3712L (Fa)  
and Organic Chemistry II Lecture for Chemistry  
Majors (Sp)  
and Organic Chemistry II Lab for Chemistry Majors  
(Sp)

**CHEM 3603** Organic Chemistry I (Su, Fa)  
& CHEM 3601L and Organic Chemistry I Laboratory (Su, Fa)  
& CHEM 3613 and Organic Chemistry II (Sp, Su)  
& CHEM 3611L and Organic Chemistry II Laboratory (Sp, Su)

Select one of the following: 4-10

**CHEM 3453** Elements of Physical Chemistry (Fa)  
& CHEM 3451L and Elements of Physical Chemistry Laboratory  
(Fa)<sup>1</sup>

**CHEM 3504** Physical Chemistry I (Fa)  
& CHEM 3514 and Physical Chemistry II (Sp)  
& CHEM 3512L and Physical Chemistry Laboratory (Sp)<sup>2</sup>

Two Additional Lecture Courses Numbered Above 3000. 6

Total Hours 30-36

<sup>1</sup> PHYS 2033/PHYS 2031L and MATH 2554 or MATH 2043 are prerequisites for CHEM 3453

<sup>2</sup> PHYS 2074 and MATH 2574 are prerequisites for the alternate physical chemistry course sequence CHEM 3504 and CHEM 3514/CHEM 3512L.

These physics and mathematics prerequisite requirements are substantial, and these courses and their prerequisites should be scheduled early in the student's program. Sample schedules may be obtained from the department of chemistry and biochemistry. Prospective students should consult a departmental adviser.

**Writing Requirement:** Chemistry majors will satisfy the Fulbright College writing requirement by satisfactory completion of the formal research/analytical reports required in Physical Chemistry Laboratory, CHEM 3451L or CHEM 3512L.

## Chemistry B.A. Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
Select one of the following:	3-4	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (if required)		
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) <sup>1</sup>		
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) (as advised) <sup>1,3</sup>		
Select one of the following:	4	
CHEM 1203 Chemistry for Majors I (Fa) & CHEM 1201L Chemistry for Majors I Laboratory (Fa)		
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) & CHEM 1101L University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)		
Elementary II World Language Course Numbered 1013	3	
University/State Core US History requirement	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
Select one of the following as needed:	3-4	
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) <sup>1</sup>		
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) <sup>3</sup>		
Elective		
Select one of the following:	3	
CHEM 1223 Chemistry for Majors II (Sp) & CHEM 1221L Chemistry for Majors II Laboratory (Sp)		
CHEM 1123 University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) & CHEM 1121L University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)		
Intermediate I World Language Course Numbered 2003	3	

University/State Core Social Science requirement		3
Year Total:	16	15

Second Year	Units	
	Fall	Spring
Select one of the following:	4-5	
CHEM 3703 Organic Chemistry I Lecture for Chemistry Majors (Fa) & CHEM 3702L Organic Chemistry I Lab for Chemistry Majors (Fa) <sup>1,2</sup>		
CHEM 3603 Organic Chemistry I (Su, Fa) & CHEM 3601L Organic Chemistry I Laboratory (Su, Fa) <sup>1,2</sup>		
PHYS 2013 College Physics I (ACTS Equivalency = PHYS 2014 Lecture) (Su, Fa) & PHYS 2011L College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab) (Su, Fa) <sup>1</sup>	4	
University/State Core Fine Arts or Humanities requirement		3
University/State Core Social Science requirement		3
General Elective		3
Select one of the following:		4-5
CHEM 3713 Organic Chemistry II Lecture for Chemistry Majors (Sp) & CHEM 3712L Organic Chemistry II Lab for Chemistry Majors (Sp) <sup>1,2</sup>		
CHEM 3613 Organic Chemistry II (Sp, Su) & CHEM 3611L Organic Chemistry II Laboratory (Sp, Su) <sup>1,2</sup>		
University/State Core Humanities or Fine Arts requirement (as needed)		3
PHYS 2033 College Physics II (ACTS Equivalency = PHYS 2024 Lecture) (Sp, Su) & PHYS 2031L College Physics II Laboratory (ACTS Equivalency = PHYS 2024 Lab) (Su)		4
University/State Core Social Science requirement (as needed)		3
Year Total:	17	14

Third Year	Units	
	Fall	Spring
CHEM 2263 Analytical Chemistry Lecture (Sp, Fa) <sup>1</sup>	3	
CHEM 3453 Elements of Physical Chemistry (Fa) & CHEM 3451L Elements of Physical Chemistry Laboratory (Fa) <sup>1,2</sup>	4	
General Electives		9
General Electives		16
Year Total:	16	16

Fourth Year	Units	
	Fall	Spring
CHEM 3813 Elements of Biochemistry (Sp, Su, Fa) <sup>1,2</sup>	3	
or CHEM 4813H Honors Biochemistry I (Fa)		
CHEM 2261L Analytical Chemistry Laboratory (Sp, Fa) <sup>1</sup>		1

Upper Level Fulbright College Elective <sup>1,2</sup>	3	
General Elective	7	
CHEM 4853 Biochemical Techniques (Sp) <sup>1,2</sup>	3	3
Select one of the following:	3	
CHEM 4843H Honors Biochemistry II (Sp) <sup>1,2</sup>		
3000+ CHEM Elective <sup>1,2</sup>		
General Electives	6	
Year Total:	14	12
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Total Units in Sequence:		120

- <sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations.
- <sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations.
- <sup>3</sup> Depends on placement; MATH 2043 Survey of Calculus is another option for this degree. Student may also choose to take MATH 1284C Precalculus in Fall Semester 1 and MATH 2554 Calculus in Spring Semester 1. Another option is to complete MATH 1203 in Fall Semester 1 and MATH 2043 Survey of Calculus in Spring Semester 1.

## Requirements for a B.A. degree with a Major in Chemistry with Biochemistry Concentration

In addition to the University Core requirements and the Fulbright College of Arts and Sciences Graduation Requirements (see College Academic Regulations and Degree Completion Policy), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the University Core requirements.

A minimum of 32 semester hours in chemistry including:

Select one of the following:	8
<b>CHEM 1203</b> Chemistry for Majors I (Fa) & CHEM 1201L and Chemistry for Majors I Laboratory (Fa) & CHEM 1223 and Chemistry for Majors II (Sp) & CHEM 1221L and Chemistry for Majors II Laboratory (Sp)	
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) (CHEM 1101L, CHEM 1123, CHEM 1121L)	
CHEM 2263 Analytical Chemistry Lecture (Sp, Fa) & CHEM 2261L and Analytical Chemistry Laboratory (Sp, Fa)	4
Select one of the following:	4-10
<b>CHEM 3453</b> Elements of Physical Chemistry (Fa) & CHEM 3451L and Elements of Physical Chemistry Laboratory (Fa)	
CHEM 3504 Physical Chemistry I (Fa) & CHEM 3514 and Physical Chemistry II (Sp) & CHEM 3512L and Physical Chemistry Laboratory (Sp)	
Select one of the following:	8
<b>CHEM 3603</b> Organic Chemistry I (Su, Fa) & CHEM 3601L and Organic Chemistry I Laboratory (Su, Fa) & CHEM 3613 and Organic Chemistry II (Sp, Su) & CHEM 3611L and Organic Chemistry II Laboratory (Sp, Su)	

<b>CHEM 3703</b> Organic Chemistry I Lecture for Chemistry Majors & CHEM 3702L (Fa) & CHEM 3713 and Organic Chemistry I Lab for Chemistry Majors & CHEM 3712L (Fa) and Organic Chemistry II Lecture for Chemistry Majors (Sp) and Organic Chemistry II Lab for Chemistry Majors (Sp)	
Select one of the following:	3
<b>CHEM 4853</b> Biochemical Techniques (Sp)	

Or completion of a senior thesis based on independent research wherein at least 1 credit hour is earned in CHEM 400V (chemistry research) and/or CHEM 498V (senior thesis) during each of 3 different semesters.

Select one of the following:	6-7
<b>CHEM 5813-5843</b> (same as CHEM 4813H-4843H)	

<b>CHEM 3813</b> Elements of Biochemistry (Sp, Su, Fa) & CHEM 4213 and Instrumental Analysis (Sp) & CHEM 4211L and Instrumental Analysis Laboratory (Sp)	
<b>CHEM 3813</b> Elements of Biochemistry (Sp, Su, Fa) & CHEM 4123 and Advanced Inorganic Chemistry I (Fa)	
<b>CHEM 3813</b> Elements of Biochemistry (Sp, Su, Fa) & CHEM 4723 and Experimental Methods in Organic Chemistry (Fa)	
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	4
or MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)	

Select one of the following:	8
<b>PHYS 2013</b> College Physics I (ACTS Equivalency = PHYS & PHYS 2011L 2014 Lecture) (Su, Fa) & PHYS 2033 and College Physics I Laboratory (ACTS & PHYS 2031L Equivalency = PHYS 2014 Lab) (Su, Fa) and College Physics II (ACTS Equivalency = PHYS 2024 Lecture) (Sp, Su) and College Physics II Laboratory (ACTS Equivalency = PHYS 2024 Lab) (Su)	

### PHYS 2054 / PHYS 2074

Four courses from the Biological Sciences (at least 3 hours of which must be upper-level courses) 11

Completion of a World Language Course at the 2003 Intermediate I Level.

Total Hours 56-63

The mathematics and physics courses are prerequisites for some advanced courses and should be scheduled early in the student's program.

**Writing Requirement:** Chemistry majors will satisfy the Fulbright College writing requirement by satisfactory completion of the formal research/analytical reports required in Physical Chemistry Laboratory, CHEM 3451L or CHEM 3512L.

## Chemistry B.A. with Biochemistry Option Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program. The following eight-semester plan refers to additional B.A. Core requirement hours may vary

by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) (or other mathematics course as advised for major) <sup>1,3</sup>	3-4	
Select one of the following:	4	
CHEM 1203 Chemistry for Majors I (Fa) & CHEM 1201L Chemistry for Majors I Laboratory (Fa)		
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) & CHEM 1101L University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)		
Elementary II World Language Course Numbered 1013	3	
University/State Core US History requirement	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)	3	
MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa) <sup>1,3</sup>	4	
Select one of the following:	4	
CHEM 1223 Chemistry for Majors II (Sp) & CHEM 1221L Chemistry for Majors II Laboratory (Sp)		
CHEM 1123 University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) & CHEM 1121L University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)		
Intermediate I World Language Course Numbered 2003	3	
University/State Core Social Science requirement	3	
Year Total:	17	17

Second Year	Units	
	Fall	Spring
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	4	
Select one of the following:	4	
PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa) <sup>1</sup>		
PHYS 2013 College Physics I (ACTS Equivalency = PHYS 2014 Lecture) (Su, Fa) & PHYS 2011L College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab) (Su, Fa) <sup>1</sup>		
Advanced Elective <sup>1</sup>	3	

University/State Core Fine Arts or Humanities requirement	3	
University/State Core Social Science requirement	3	
CHEM 2263 Analytical Chemistry Lecture (Sp, Fa) & CHEM 2261L Analytical Chemistry Laboratory (Sp, Fa) <sup>1</sup>		4
Select one of the following:		4
PHYS 2074 University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa) <sup>1</sup>		
PHYS 2033 College Physics II (ACTS Equivalency = PHYS 2024 Lecture) (Sp, Su) & PHYS 2031L College Physics II Laboratory (ACTS Equivalency = PHYS 2024 Lab) (Su) <sup>1</sup>		
Biology Elective		3
University/State Core Humanities or Fine Arts requirement (as needed)		3
University/State Core Social Science requirement		3
Year Total:	17	17

Third Year	Units	
	Fall	Spring
CHEM 3703 Organic Chemistry I Lecture for Chemistry Majors (Fa)	5	
& CHEM 3702L Organic Chemistry I Lab for Chemistry Majors (Fa) <sup>1,2</sup>		
Select one of the following:	4	
CHEM 3453 Elements of Physical Chemistry (Fa) & CHEM 3451L Elements of Physical Chemistry Laboratory (Fa) <sup>1,2</sup>		
CHEM 3504 Physical Chemistry I (Fa)		
Upper Level Biology Elective <sup>1,2</sup>	4	
General Electives	3	
CHEM 3713 Organic Chemistry II Lecture for Chemistry Majors (Sp)		5
& CHEM 3712L Organic Chemistry II Lab for Chemistry Majors (Sp) <sup>1,2</sup>		
Select one of the following:		6
CHEM 3514 Physical Chemistry II (Sp) & CHEM 3512L Physical Chemistry Laboratory (Sp) <sup>1,2</sup>		
CHEM Electives 3000-4000 Level <sup>1,2</sup>		
General Elective		3
Year Total:	16	14

Fourth Year	Units	
	Fall	Spring
CHEM 3813 Elements of Biochemistry (Sp, Su, Fa) <sup>1,2</sup>	3	
or CHEM 4813H Honors Biochemistry I (Fa)		
CHEM 4123 Advanced Inorganic Chemistry I (Fa) <sup>1,2</sup>	3	
General Electives	6	
CHEM 4853 Biochemical Techniques (Sp) <sup>1,2</sup>		3
Select one of the following:		3



CHEM 4843H Honors Biochemistry II (Sp) <sup>1,2</sup>		
CHEM Elective 3000-4000 Level <sup>1,2</sup>		
General Electives		4
Year Total:	12	10
<hr/>		
Total Units in Sequence:		120

- <sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations on page 131 of this chapter
- <sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations on page 131 of this chapter.
- <sup>3</sup> Depending on placement; MATH 2043 Survey of Calculus is another option. Student may also choose to take MATH 1284C Precalculus in Fall Semester Year 1 and MATH 2554 Calculus in Spring Semester Year 1. Another option is to complete MATH 1203 in Fall Semester 1 and MATH 2043 Survey of Calculus in Spring Semester Year 1.

#### Requirements for a Minor in Chemistry:

CHEM 2263 & CHEM 2261L	Analytical Chemistry Lecture (Sp, Fa) and Analytical Chemistry Laboratory (Sp, Fa)	4
CHEM 3603 & CHEM 3601L	Organic Chemistry I (Su, Fa) and Organic Chemistry I Laboratory (Su, Fa)	4
CHEM 3613 & CHEM 3611L	Organic Chemistry II (Sp, Su) and Organic Chemistry II Laboratory (Sp, Su)	4
CHEM 3453	Elements of Physical Chemistry (Fa)	3
A course at the 3000-4000 level.		3
<hr/>		
Total Hours		18

A student must notify the department of his or her intent to minor.

**Requirements for Departmental Honors in Chemistry:** Students with good academic backgrounds and strong interests in research are encouraged to participate in the department of chemistry and biochemistry honors program. Entrance into the program is normally during the sophomore year or the first semester of the junior year, and a minimum cumulative GPA of 3.5 is required. Entrance is initiated by consulting the faculty academic adviser, who will help arrange conferences with potential faculty research project advisers. When there is agreement between the student and the adviser on a research project or area, an Honors Advisory Committee is set up to supervise the honors candidate's program. The heart of the program is the research project, but students are encouraged to broaden their experience beyond required courses within chemistry, the natural sciences, the social sciences, and the humanities. Participation in Honors Colloquia, honors sections of regular courses, and chemistry departmental and divisional seminars is especially recommended. All honors candidates enroll in the spring semester Honors Seminar (CHEM 4011H), and senior honors students must make at least one seminar presentation. All honors candidates will be required to complete and defend an honors thesis and take 12 hours (which may include 6 hours of thesis) in Honors Studies. The thesis is required in the spring semester of the senior year, followed by an oral presentation. On the basis of these written and oral reports and their evaluation of all aspects of the student's honor program, the candidate's Honors Advisory Committee will recommend whether or not the distinction "Chemistry or Biochemistry Scholar *Cum Laude*" should be awarded. Higher degree distinctions are recommended only in truly exceptional cases and are based upon the whole of the candidate's program of honors studies.

#### Chemistry (B.A. or B.S.) Physical/Earth Science Teacher Licensure

**Requirements:** Students wanting to pursue licensure through the MAT program should please refer to the Secondary Education Requirements for Fulbright College Students. Students wishing to pursue licensure through the UAteach undergraduate curriculum should consult with a UAteach adviser, [uteach@uark.edu](mailto:uteach@uark.edu).

Students wanting to teach science in middle school should consult with a middle level adviser in the College of Education and Health Professions.

## Classical Studies (CLST)

### Faculty

**Lynda L. Coon**, Professor  
**David Charles Fredrick**, Associate Professor  
**Daniel Levine**, University Professor  
**Oksana Maksymchuk**, Assistant Professor  
**Charles E. Muntz**, Assistant Professor

Daniel B. Levine  
 Chair of Studies  
 502 Kimpel Hall  
 479-575-2951

<http://fulbright.uark.edu/departments/world-languages/undergraduate/our-languages/classics.php>

The Classical Studies Program offers a major leading to a Bachelor of Arts degree. The program also offers a minor in classical studies.

Classical studies are the oldest discipline in the humanities and will teach you a lot about why our world is the way it is. Based on the Greek and Latin literature, the Classics remain essential to many fields in the liberal arts, including the study of ancient art, architecture, history, mythology, and philosophy. Based on Greek and Latin literature, the program draws faculty from five different departments. In addition to Greek and Latin, courses are offered on various aspects of classical civilization. Study abroad options in Greek and Italy are available.

**Requirements for a Major in Classical Studies:** In addition to the University Core (p. 81) requirements and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following departmental and major course requirements must be met. Bolded courses from the list below may be applied to portions of the University Core requirements.

CLST 1003	Introduction to Classical Studies: Greece (Odd years, Fa)	3
CLST 1013	Introduction to Classical Studies: Rome (Even years, Sp)	3
6 Hours of Humanities to be fulfilled by:		6
PHIL 2003	Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)	
WLIT 1113	World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)	
World Civilization (Social Sciences) to be fulfilled by:		6
HIST 1113 & HIST 1123	Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa) and Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa) <sup>1,2</sup>	

**Students should also complete appropriate courses from the following:**

15 hours of Ancient Greek or 15 hours of Latin.	15
18 hours of additional work in classical languages and/or specific classical studies-related electives, to be selected from the following courses: <sup>3</sup>	18
ARCH 2233 History of Architecture I (Fa)	
ARHS 4833 Ancient Art (Irregular) (prerequisite ARHS 2913 Art History Survey I)	
ARHS 4843 Medieval Art (Irregular) (prerequisite ARHS 2913 Art History Survey I)	
CLST 2323 Greek and Roman Mythology (Irregular)	
HIST 4003 Democratic Athens (Irregular)	
HIST 4013 Alexander the Great and the Hellenistic World (Irregular)	
HIST 4023 Roman Republic (Irregular)	
HIST 4043 Late Antiquity and the Early Middle Ages (Even years, Fa)	
HIST 4053 Late Middle Ages (Odd years, Sp)	
PHIL 4003 Ancient Greek Philosophy (Fa) (prerequisite 3 hours of philosophy)	
PHIL 4013 Platonism and Origin of Christian Theology (Irregular) (prerequisite 3 hours of philosophy)	
PHIL 4023 Medieval Philosophy (Irregular)	
3 Hours of Classical Studies Colloquium	3
CLST 4003H Honors Classical Studies Colloquium (Sp)	
<b>Total Hours</b>	<b>54</b>

<sup>1</sup> Honors students who complete the HUMN 1114H, HUMN 1124H, HUMN 2114H, HUMN 2124H (H2P) sequence will have fulfilled the World Civilization HIST 1113 and HIST 1123 requirement for this major as well as the major's 6-hour Humanities requirement (equivalent of WLIT 1113 and WLIT 1123).

<sup>2</sup> This fulfills 6 hours of social science university/state core; the remaining 3 hours in the social science core must be fulfilled by a non-HIST social science university/state core course.)

<sup>3</sup> No more than nine hours of electives from the medieval period may be applied to the major requirements.

## Classical Studies B.A. Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
Select one of the following:	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (If Required)		
MATH 2033 Mathematical Thought (Sp, Su, Fa) <sup>1</sup>		

MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)		
MATH 2053 Finite Mathematics (Sp, Su, Fa)		
MATH 2183 Mathematical Reasoning in a Quantitative World (Sp, Fa)		
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)		
GREK 1003 Elementary Ancient Greek I (Fa) <sup>*</sup> or LATN 1003 Elementary Latin I (Fa)		3
if no high school ancient Greek or Latin was taken		
U.S. History University/State Core Requirement		3
CLST 1003 Introduction to Classical Studies: Greece (Odd years, Fa) ((recommended) or other approved Classical Studies/Language Elective)		3
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
WLIT 1113 World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)		3
GREK 1013 Elementary Ancient Greek II (Sp) or LATN 1013 Elementary Latin II (Sp)		3
CLST 1013 Introduction to Classical Studies: Rome (Even years, Sp) ((recommended) or other approved classical studies/language elective)		3
Non-HIST Social Science University/State Core Requirement		3
<b>Year Total:</b>		<b>15 15</b>

Second Year	Units	
	Fall	Spring
GREK 2003 Intermediate Ancient Greek I (Fa) or LATN 2003 Petronius' Satyricon (Fa)	3	
Select one of the following:	3	
GREK 1003 Elementary Ancient Greek I (Fa) <sup>*</sup> or LATN 1003 Elementary Latin I (Fa) <sup>*</sup>		
General Elective		
HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)		3
PHIL 2003 Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)		3
Fine Arts university/state core requirement		3
GREK 2013 Homer (Sp) or LATN 2013 Catullus (Sp)		3
Select one of the following:		3
GREK 1013 Elementary Ancient Greek II (Sp) or LATN 1013 Elementary Latin II (Sp)		
General Elective		
Advanced Level Elective <sup>1</sup>		3
Science University/State Core Lecture with Corequisite Lab Requirement		4
HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)		3
<b>Year Total:</b>		<b>15 16</b>

Third Year	Units	
	Fall	Spring
GREK or LATN Advanced Language <sup>1,2</sup>	3	
Select one of the following:	3	
GREK 2003 Intermediate Ancient Greek I (Fa)		
LATN 2003 Petronius' Satyricon (Fa)		
General Elective		
Advanced Level Elective <sup>1</sup>	3	
Select one of the following:	3	
ARHS 2913 Art History Survey I (ACTS Equivalency = ARTA 2003) (Sp, Fa)		
General Elective		
General Electives	3	
Select one of the following:		3
GREK 2013 Homer (Sp)		
LATN 2013 Catullus (Sp)		
General Elective		
Classical Studies Elective <sup>1,2</sup>		3
Select one of the following:		3
CLST 4003H Honors Classical Studies Colloquium (Sp) <sup>1,2</sup>		
Upper-level Classical Studies Elective <sup>1,2</sup>		
General Elective		3
Science University/State Core Lecture w/ Corequisite Lab Requirement		4
Year Total:	15	16

Fourth Year	Units	
	Fall	Spring
Classical Studies Elective <sup>1,2</sup>	3	
Classical Studies Elective <sup>1,2</sup>	3	
Advanced Level Elective <sup>1</sup>	3	
General Electives	6	
Classical Studies Elective <sup>1,2</sup>		3
Classical Studies Elective <sup>1,2</sup>		3
CLST 4003H Honors Classical Studies Colloquium (Sp) (if needed) <sup>1,2</sup> or Classical Studies Elective <sup>1,2</sup>		3
Upper-Level ARSC Elective <sup>1,2</sup>		3
General Electives (as needed to total 120 degree credit hours)		1
Year Total:	15	13

Total Units in Sequence: 120

<sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations (p. 183).

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations (p. 183).

\* Note: 1003 Elementary I world language courses may not count towards the 120 hours required for degree credit; see College Admission Requirements for further details.

#### Requirements for a Minor in Classical Studies:

Students should select appropriate courses from the following areas:

1. 9 hours of Ancient Greek or Latin courses numbered above 2000,
2. 6 hours of additional work in classical languages and/or specific classical studies-related electives, to be selected from the following courses:

ARCH 2233	History of Architecture I (Fa)
ARHS 4833	Ancient Art (Irregular)
ARHS 4843	Medieval Art (Irregular)
CLST 1003	Introduction to Classical Studies: Greece (Odd years, Fa)
CLST 1013	Introduction to Classical Studies: Rome (Even years, Sp)
CLST 2323	Greek and Roman Mythology (Irregular)
HIST 4003	Democratic Athens (Irregular)
HIST 4013	Alexander the Great and the Hellenistic World (Irregular)
HIST 4023	Roman Republic (Irregular)
HIST 4043	Late Antiquity and the Early Middle Ages (Even years, Fa)
HIST 4053	Late Middle Ages (Odd years, Sp)
PHIL 4003	Ancient Greek Philosophy (Fa)
PHIL 4013	Platonism and Origin of Christian Theology (Irregular)
PHIL 4023	Medieval Philosophy (Irregular)

3. Three hours of a classical studies colloquium (CLST 4003H).

**Requirements for Honors in Classical Studies:** The Honors Program in Classical Studies gives students of high ability the opportunity to strengthen their study of classics by intensifying their experience with ancient languages and cultures.

In addition to the requirements for graduation with a major in classical studies and the general college requirements for a B.A. degree, honors candidates in classical studies must

1. Be accepted as honors candidates by the Classical Studies Committee,
2. Complete at least three semesters in a second classical language,
3. Enroll in at least two 1-hour units of CLST 399VH and pursue independent-study topics under the guidance of classical studies faculty,
4. Enroll for two hours of CLST 399VH and write an honors thesis, and
5. Defend and discuss their entire honors program in an oral examination.

Successful completion of the requirements will be recognized by the award of the distinction "Classical Studies Scholar *Cum Laude*" at graduation. Higher degree distinctions are recommended only in truly exceptional cases and are based upon the whole of the candidate's program of honors studies.

# Communication (COMM)

## Faculty

Myria Allen, Professor

Trish Amason, Associate Professor

Laurie Brady, Instructor

Robert M. Brady, Associate Professor

Peggy Lee Catron-Ping, Instructor

Lisa Corrigan, Associate Professor

Lauren J. DeCarvalho, Assistant Professor

Sarah Denison, Instructor

Tom Frenz, Professor

Cathy A. Hollingsworth, Instructor

Sophie H. Janicke, Visiting Assistant Professor

Jerilyn Laura Kenemer, Instructor

Lynn Meade, Instructor

Meredith D. Neville-Shepard, Clinical Assistant Professor

Ryan M. Neville-Shepard, Assistant Professor

J. Brian O'Loughlin, Visiting Assistant Professor

Thomas Oommen, Visiting Assistant Professor

Thomas Rosteck Jr., Associate Professor

Frank Milo Scheide, Professor

Stephanie Ricker Schulte, Associate Professor

Matthew L. Spialek, Assistant Professor

Ron Warren Jr., Associate Professor

Robert Howard Wicks, Professor

Robert M. Brady

Chair of the Department

417 Kimpel Hall

479-575-3046

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[comm@uark.edu](mailto:comm@uark.edu)

The Department of Communication offers a major leading to Bachelor of Arts degree in communication as well as a minor in communication.

As a subject for academic study, communication bridges the humanities and the social sciences. It focuses on relationships – personal, group, and societal – and the factors and processes that affect important relationships. Friendships and families, business relationships and political systems, cultural interaction and technological advances are important areas of study in communication. Communication students may concern themselves with the dynamics of interpersonal persuasion, the effects of media technologies, the nature of gender stereotypes, the function of roles within the family, the structure of organizational authority, the influence of cultural myths, the impact of social movements, and the history of rhetoric. Because the program offers many diverse interests, there is a place for anyone with a genuine curiosity about human communication and its effect upon society.

Communication majors from recent graduating classes now hold responsible positions in government and public affairs, in management, marketing, and public relations within private business, and in television and mass media organizations. Many others are successfully pursuing further education in graduate and professional schools.

The department of communication offers general studies of the discipline, as well as concentration in three specific emphasis areas:

1. Rhetoric and public communication,
2. Interpersonal, small group, and organizational communication, and

3. Mass communication.

Students may also select a program for acquisition of teaching certification in the field.

**Admission Requirements for a Major in Communication:** For standing as a major, entering freshmen must have ACT composite scores of 20 or higher, and those transferring into the program after the first semester of college study must have a cumulative grade-point average of 2.00 or higher.

### University and College Requirements for a Major in Communication:

In addition to the university/state core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (see under College Academic Regulations and Degree Completion Policy (p. 183)), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the University/state minimum core requirements.

Select one of the following:

MATH 2033	Mathematical Thought (Sp, Su, Fa) *	3
MATH 2043C	Survey of Calculus (Sp, Su, Fa)	
MATH 2053C	Finite Mathematics (Sp, Fa)	
MATH 2183	Mathematical Reasoning in a Quantitative World (Sp, Fa) *	
MATH 2554C	Calculus I (ACTS Equivalency = MATH 2405) (Sp, Fa)	
STAT 2303	Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa) *	

\* These courses are highly recommended.

3-6 hours – Completion of a world language course at the 2003 Intermediate I level is preferred. (This is usually accomplished through completion of a sequence of two language courses: 1013 and 2003.) Alternatively, 6 hours of courses from a single culture or world region including African, Asian, European, Latin American and Latino, or Middle Eastern and Islamic may be used to fulfill this requirement. Courses must be approved by a departmental adviser.

9 hours – Fine arts and Humanities courses to include: COMM 1003, one additional **University/state fine arts core course**, and one **University/state humanities core course**

42 hours – Communication courses:

COMM 1023	Communication in a Diverse World (Sp, Fa) *	3
COMM 1233	Media, Community and Citizenship (Sp, Fa) *	3
COMM 1313	Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa) *	3
COMM 2333	Introduction to Communication Research (Sp, Fa) *	3
21 hours of communication courses numbered 3000-4000		21
Communication electives		9
Total Hours		42

\* With a minimum grade of "C".

Communication courses that may satisfy the college or University Core requirements will not count toward the communication electives. To graduate, students must have a cumulative grade-point average of 2.00 or above within the major.

**Writing Requirement:** The college writing requirement may be satisfied by a research paper achieving a grade of “C” or better submitted for an upper-division communication class and approved by the chair of the department.

## Communication B.A. Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (if required)	3	
Or select one of the following: <sup>1</sup>		
MATH 2033 Mathematical Thought (Sp, Su, Fa)		
MATH 2183 Mathematical Reasoning in a Quantitative World (Sp, Fa)		
STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)		
Higher-level MATH course		
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3	
US History university/state core requirement	3	
Elementary II world language course numbered 1013	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
Select one of the following as required:		3
MATH 2033 Mathematical Thought (Sp, Su, Fa) <sup>1</sup>		
MATH 2183 Mathematical Reasoning in a Quantitative World (Sp, Fa) <sup>1</sup>		
STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa) <sup>1</sup>		
Higher level math course, as required <sup>1</sup>		
General Elective		
Intermediate I world language course numbered 2003		3
COMM 1023 Communication in a Diverse World (Sp, Fa) or COMM 1233 Media, Community and Citizenship (Sp, Fa)		3
Fine Arts or Humanities core course or COMM 1003 (as needed)		3
Year Total:	15	15

Second Year	Units	
	Fall	Spring
COMM 2333 Introduction to Communication Research (Sp, Fa)	3	

or any COMM elective		
Science university/state core lecture with corequisite lab requirement		4
Social Science university/state core requirement		3
Fine Arts or Humanities core course or COMM 1003 (as needed)		3
COMM 1233 Media, Community and Citizenship (Sp, Fa) (as needed) or COMM 1023 Communication in a Diverse World (Sp, Fa)		3
COMM 2333 Introduction to Communication Research (Sp, Fa)		3
or any COMM Elective		
Advanced Level Elective <sup>1</sup>		3
Social Science university/state core requirement		3
Science university/state core lecture with corequisite lab requirement		4
Fine Arts or Humanities core course or COMM 1003 (as needed)		3
Year Total:	16	16

Third Year	Units	
	Fall	Spring
3000 or 4000-level COMM elective <sup>1,2</sup>	3	
3000 or 4000-level COMM elective <sup>1,2</sup>	3	
Advanced Level Elective <sup>1</sup>	3	
Social Science university/state core requirement	3	
General Elective	3	
3000 or 4000-level COMM elective <sup>1,2</sup>		3
3000 or 4000-level COMM elective <sup>1,2</sup>		3
Advanced Level Elective <sup>1</sup>		3
General Electives		6
Year Total:	15	15

Fourth Year	Units	
	Fall	Spring
3000 or 4000-level COMM elective <sup>1,2</sup>	3	
3000 or 4000-level COMM elective <sup>1,2</sup>	3	
3000 or 4000-level elective <sup>1</sup>	3	
Advanced Level Elective <sup>1</sup>	3	
Advanced Level Elective (as needed) <sup>1</sup>	3	
3000 or 4000-level COMM elective <sup>1,2</sup>		3
3000 or 4000-level COMM elective <sup>1,2</sup>		3
3000 or 4000-level Fulbright College elective <sup>1,2</sup>		3
Advanced Level Elective (as needed) <sup>1</sup> or General Elective		3
General Elective		1
Year Total:	15	13

Total Units in Sequence: 120

<sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations (p. 183).

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations (p. 183).

**Requirements for a Minor in Communication:** 21 hours including at least 12 hours must be numbered 3000 or above. A student should consult with an adviser in the department for appropriate courses.

**Requirements for Honors in the Department of Communication:** The Honors Program in communication gives an opportunity for a student to achieve an additional level of intellectual growth and a satisfaction of accomplishment. A student engages in independent research and writing, under the supervision of a member of the communication faculty, and participates in special honors classes, seminars, and colloquia.

Faculty recognize outstanding achievement by a student by recommending that the bachelor's degree in communication be awarded with the distinction "Communication Scholar *Cum Laude*." Higher distinctions may be awarded to truly outstanding students based upon the whole of their academic program and quality of honors research.

To enter the Honors Program, a student must possess a 3.5 minimum grade-point average on all academic work and receive the recommendation of a faculty member in communication to the Honors Council of Fulbright College. A student may pursue an independent research program of a historical, critical, descriptive, or experimental nature, within any of the areas of rhetorical or communication theory, history of public address, interpersonal, small-group, or organizational communication, persuasion, argumentation, political communication, freedom of speech, communication education, or in any closely related areas of inquiry. A student interested in mass communications, broadcasting, or film may choose to pursue either a research project or a creative study. In addition to satisfying the general college and departmental requirements for a bachelor's degree, a student must satisfy departmental honors requirements, which include the following:

1. Become an honors candidate no later than the junior year of study. Students are encouraged to establish honors candidacy as early as possible.
2. Enroll in COMM 3991H no later than the junior year of study.
3. Enroll in COMM 499VH a minimum of one hour of credit each semester after the completion of COMM 3991H and until completion of the honors thesis,
4. Achieve a 3.5 minimum grade-point average in communication,
5. Complete 12 hours (which may include 6 hours of thesis) in Honors Studies, and
6. Write and successfully defend before a faculty examining committee a thesis based on the investigative or creative project undertaken in COMM 499VH.

For a full description of the Honors Program and its requirements, consult with the Undergraduate Director in the Department of Communication.

**Communication (B.A.) Drama/Speech Teacher Licensure**

**Requirements:** Please refer to the Secondary Education Requirements (p. 186) for Fulbright College Students in the "Other Programs" section of the page.

## Criminal Justice (CMJS) Faculty

Douglas James Adams, Associate Professor

- Juan Jose Bustamante, Assistant Professor
- Lauren Copley, Visiting Assistant Professor
- Grant R. Drawve, Assistant Professor
- Mindy Sue Engen, Professor
- Rodney L. Engen, Associate Professor
- Kevin M. Fitzpatrick, University Professor, Bernice Jones Chair of Community and Family Institute
- Casey Taggart Harris, Associate Professor
- Patricia S. Herzog, Assistant Professor
- Lori C. Holyfield, Professor
- Brandon Jackson, Assistant Professor
- Patricia Koski, Associate Professor
- Shauna Morimoto, Associate Professor
- Bill Schwab, University Professor
- Christopher A. Shields, Assistant Professor
- Brent Lamar Smith, Distinguished Professor
- Shaun A. Thomas, Associate Professor
- Marcella Thompson, Instructor
- Steven K. Worden, Associate Professor
- Song Yang, Professor
- Anna Zajicek, Professor

Anna M. Zajicek  
Chair of Studies  
211 Old Main  
479-575-3205  
<http://sociology.uark.edu>

The Department of Sociology offers a major leading to a Bachelor of Arts degree in criminal justice. The program in criminal justice is designed to prepare candidates for a variety of entry-level positions in criminal justice and to enable experienced personnel to expand their knowledge and skills. Drawing on a strong interdisciplinary base in the social sciences, the program provides education in the complexities of human behavior and problems of interpersonal relations in an increasingly urbanized America. The overall goal of the program is to enable men and women to contribute to the development and implementation of a fair and effective system of criminal justice.

**Requirements for the B.A. Degree with Major in Criminal Justice:**

Students must complete 120 degree credit hours to include the minimum University Core requirements (p. 81), the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), and the following major course requirements. Bolded courses from the list below may be applied to portions of the University/state minimum core requirements.

Select one of the following:		3-4
MATH 2033	Mathematical Thought (Sp, Su, Fa)	
MATH 2043	Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)	
MATH 2053	Finite Mathematics (Sp, Su, Fa)	
MATH 2183	Mathematical Reasoning in a Quantitative World (Sp, Fa)	
MATH 2554	Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	
ENGL 2003	Advanced Composition (Sp, Su, Fa) (see course description for exemption requirements)	3
Three hours of a world language at the 1013 Elementary II level or higher		3
A minimum of 37 additional semester hours to include:		37

CMJS 2003	Introduction to Criminal Justice (ACTS Equivalency = CRJU 1023) (Sp, Su, Fa)	
SOCI 2013	General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa)	
CMJS 2043	Criminal Law and Society (Sp, Fa)	
CMJS/SOCI 3023	Criminology (Sp, Fa)	
CMJS 3043	The Police and Society (Sp, Fa)	
CMJS/SOCI 3203	Corrections (Sp, Fa)	
SOCI 3301L	Social Data and Analysis Laboratory (Sp, Fa)	
SOCI 3303	Social Data and Analysis (Sp, Fa)	
SOCI 3313	Social Research (Sp, Fa)	
12 hours of 3000- and 4000- level criminal justice or sociology courses not taken above		
Total Hours		46-47

For transfer students, a minimum of 18 hours of coursework in the major at the University of Arkansas is required.

**Writing Requirement:** To fulfill the Fulbright College writing requirement, each criminal justice major will submit, prior to graduation, a substantial research or analytical paper, with a grade of "A" or "B" from an upper-division criminal justice course (3000-, 4000-, or 5000-level) to their departmental adviser. Satisfactory completion of an honors project or a senior thesis may fulfill this requirement.

## Criminal Justice B.A. Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
Select one of the following:	3-4	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)		
MATH 2033 Mathematical Thought (Sp, Su, Fa) <sup>1</sup>		
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) <sup>1</sup>		
MATH 2053 Finite Mathematics (Sp, Su, Fa) <sup>1</sup>		
MATH 2183 Mathematical Reasoning in a Quantitative World (Sp, Fa) <sup>1</sup>		
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) <sup>1</sup>		
Select one of the following:	3	
SOCI 2013 General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa)		
University/State Core Social Science requirement		

1013 Elementary II World Language Course (or higher level, depending on placement)	3	
University/State Core Fine Arts, Humanities or US History requirement	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
Select one of the following MATH if needed, else General Elective:		3-4
MATH 2033 Mathematical Thought (Sp, Su, Fa) <sup>1</sup>		
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) <sup>1</sup>		
MATH 2053 Finite Mathematics (Sp, Su, Fa) <sup>1</sup>		
MATH 2183 Mathematical Reasoning in a Quantitative World (Sp, Fa) <sup>1</sup>		
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) <sup>1</sup>		
General Elective		
Select one of the following:		3
SOCI 2013 General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa) ((if still needed))		
University/State Core Social Science requirement		
University/State Core Science requirement with Corequisite Lab		4
General Elective		3
Year Total:	15	16

Second Year	Units	
	Fall	Spring
ENGL 2003 Advanced Composition (Sp, Su, Fa) (as needed)	3	
University/State Core Social Science requirement	3	
University/State Core Humanities, U.S. History, or Fine Arts requirement (as needed)	3	
CMJS 2003 Introduction to Criminal Justice (ACTS Equivalency = CRJU 1023) (Sp, Su, Fa)	3	
General Elective	3	
SOCI 3313 Social Research (Sp, Fa) <sup>1,2</sup>		3
CMJS 2023 Introduction to Criminology (Sp, Fa) (or General Elective)		3
CMJS 2043 Criminal Law and Society (Sp, Fa) <sup>1</sup>		3
University/State Core U.S. History, Fine Arts, or Humanities requirement (as needed)		3
Science University/State Core Lecture with Corequisite Lab requirement		4
Year Total:	15	16

Third Year	Units	
	Fall	Spring
SOCI 3303 Social Data and Analysis (Sp, Fa) & SOCI 3301L Social Data and Analysis Laboratory (Sp, Fa) <sup>2</sup>	4	
CMJS/SOCI 3023 Criminology (Sp, Fa) <sup>2</sup>	3	

CMJS/SOCI 3203 Corrections (Sp, Fa) <sup>2</sup>	3	
Advanced Level Elective <sup>1</sup>	3	
General Elective	3	
CMJS 3043 The Police and Society (Sp, Fa) <sup>1,2</sup>		3
CMJS 3000-4000 Elective <sup>1,2</sup>		3
Advanced Level Electives <sup>1</sup>		6
General Electives		3
Year Total:	16	15

Fourth Year	Units	
	Fall	Spring
CMJS/SOCI 3000-4000 elective <sup>1,2</sup>	3	
3000-plus Advanced Level Elective (as needed) or Advanced Level Elective <sup>1</sup>	3	
General Electives	9	
CMJS/SOCI 3000-4000 Elective <sup>1,2</sup>		3
CMJS/SOCI 3000-4000 Elective <sup>1,2</sup>		3
General Electives		6
Year Total:	15	12
Total Units in Sequence:		120

<sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations (p. 183).

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations (p. 183).

**Requirements for a Minor in Criminal Justice:** 18 semester hours in criminal justice and sociology to include CMJS 2003, CMJS 3023, SOCI 3313, and at least nine hours of 3000-level classes or above (no more than 3 hours may be SOCI). A student must notify the department of her or his intent to minor.

**Requirements for Departmental Honors in Criminal Justice:** The Departmental Honors Program in Criminal Justice is an upper-division course of study based on a topic in the area of criminal justice. To be eligible for criminal justice honors candidacy, students normally will have completed 28 semester hours and not more than 85 semester hours with a minimum cumulative grade-point average of 3.5. They must take 12 hours (which may include 6 hours of thesis) in Honors Studies. The honors project may be an intensive study of a topic in criminal justice or an empirical research investigation. The candidate is expected to pass an oral examination given by an Honors Council Committee. Projects of extraordinarily high quality may be designated High Honors by the Committee. Successful completion of the requirements will be recognized by the award of the distinction Criminal Justice Scholar *cum laude* at graduation. Higher degree distinctions are recommended only in truly exceptional cases and are based upon the whole of the candidate's program of honors studies.

## Earth Science (ERSC)

Fulbright College offers a major in earth science leading to the Bachelor of Science degree. Prospective secondary teachers may plan a program, in cooperation with the College of Education, which will satisfy the teacher licensure requirements. Students interested in environmental problems, teaching earth science in public schools, or wishing to pursue graduate work in either geography or geology will obtain much of the necessary

foundation through this degree. Because the program outlined below lists only minimum science requirements, it is expected that most students will use some of their elective credit hours to strengthen their mathematics and science backgrounds in areas other than geography and geology. These areas of additional study will be determined through consultation between the student and the adviser. Students interested in this major should contact either Professor Ralph Davis or Professor J.C. Dixon.

**Requirements for the B.S. Degree with a Major in Earth Science:** In addition to the University Core (p. 81) requirements and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the University/state minimum core requirements.

### Basic Courses

<b>Biology</b>	8
<b>Chemistry or Physics</b>	8
GEOS 1113 General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa)	4
& GEOS 1111L and General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)	
GEOS 1133 Earth Science (ACTS Equivalency = GEOL 1124 & GEOS 1131L Lecture) (Sp, Fa)	4
and Earth Science Laboratory (ACTS Equivalency = GEOL 1124 Lab) (Sp, Fa)	

Select one of the following: 3-4

MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)	
MATH 2053 Finite Mathematics (Sp, Su, Fa)	
MATH 2183 Mathematical Reasoning in a Quantitative World (Sp, Fa)	
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	

6 hours in a single world language at the 1013 Elementary II level or higher<sup>1</sup> 6

ASTR 2003 Survey of the Universe (ACTS Equivalency = & ASTR 2001L PHSC 1204 Lecture) (Sp, Su, Fa)	4
and Survey of the Universe Laboratory (ACTS Equivalency = PHSC 1204 Lab) (Sp, Su, Fa)	

### Advanced Courses

GEOS 3023 Introduction to Cartography (Fa)	3
GEOS 3043 Sustaining Earth (Sp, Su, Fa)	3
GEOS 4353 Meteorology (Fa)	3
or GEOS 4363 Climatology (Sp)	
GEOS 2313 Mineralogy and Petrology (Fa)	3
GEOS 3413 Sedimentary Rocks & Fossils (Sp)	3
GEOS 4033 Hydrogeology (Sp)	3
GEOS 4924 Earth System History (ACTS Equivalency = PHSC 1104) (Sp)	4

At least 6 additional hours, at the 3000 level or above, in GEOS. 6

Total Hours 65-66

<sup>1</sup> World language courses taken are dependent on placement level in sequence.

**Writing Requirement:** The college writing requirement is to be met by completion of a term paper deemed satisfactory by the student's adviser



and instructor of an upper-level geoscience course. The college writing requirement may also be met by the completion of an honors thesis.

## Earth Science B.S. Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

	First Year	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
Select one of the following:	3-4	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)		
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) <sup>1</sup>		
MATH 2053 Finite Mathematics (Sp, Su, Fa) <sup>1</sup>		
MATH 2183 Mathematical Reasoning in a Quantitative World (Sp, Fa) <sup>1</sup>		
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) <sup>1</sup>		
GEOS 1113 General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa) & GEOS 1111L General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)	4	
1013 Elementary II World Language Course (or higher level)	3	
University/State Core US History requirement	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
Select one of the following MATH if still needed, else General Elective:		3-4
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) <sup>1</sup>		
MATH 2053 Finite Mathematics (Sp, Su, Fa) <sup>1</sup>		
MATH 2183 Mathematical Reasoning in a Quantitative World (Sp, Fa) <sup>1</sup>		
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) <sup>1</sup>		
General Elective		
GEOS 1133 Earth Science (ACTS Equivalency = GEOL 1124 Lecture) (Sp, Fa) & GEOS 1131L Earth Science Laboratory (ACTS Equivalency = GEOL 1124 Lab) (Sp, Fa)	4	
2003 Intermediate I World Language Course (or higher level)	3	
University/State Core Fine Arts or Humanities Course requirement	3	
Year Total:	16	16

	Second Year	
	Fall	Spring
GEOS 2313 Mineralogy and Petrology (Fa)	3	
CHEM or PHYS Course (as needed)	4	
University/State Core Humanities or Fine Arts Course requirement (as needed)	3	
University/State Core Social Science requirement	3	
General Elective	3	
ASTR 2003 Survey of the Universe (ACTS Equivalency = PHSC 1204 Lecture) (Sp, Su, Fa) & ASTR 2001L Survey of the Universe Laboratory (ACTS Equivalency = PHSC 1204 Lab) (Sp, Su, Fa)		4
GEOS 3413 Sedimentary Rocks & Fossils (Sp)		3
CHEM or PHYS Course (as needed)		4
University/State Core Social Science requirement		3
Year Total:	16	14

	Third Year	
	Fall	Spring
BIOL Course (as needed)	4	
GEOS 3023 Introduction to Cartography (Fa) <sup>1,2</sup>	3	
University/State Core Social Science requirement	3	
Advanced Level Elective <sup>1</sup>	3	
Advanced Level Elective <sup>1</sup>	3	
GEOS 3043 Sustaining Earth (Sp, Su, Fa)		3
BIOL Course (as needed)		4
Advanced Level Elective <sup>1</sup>		3
GEOS 4033 Hydrogeology (Sp)		3
General Elective		1
Year Total:	16	14

	Fourth Year	
	Fall	Spring
Select one of the following:	3	
GEOS 4353 Meteorology (Fa) (as needed) <sup>1,2</sup> or Advanced Level Elective <sup>1</sup>		
Upper Level GEOS Course <sup>1,2</sup>	3	
3000-plus Level Elective <sup>1</sup>	3	
General Electives	6	
GEOS 4924 Earth System History (ACTS Equivalency = PHSC 1104) (Sp)		4
Select one of the following		3
GEOS 4363 Climatology (Sp) or Advanced Level Elective <sup>1</sup>		
Upper Level GEOS Course <sup>1,2</sup>		3
3000-plus Level Elective <sup>1</sup>		3
Year Total:	15	13
Total Units in Sequence:		120

<sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations (p. 183).

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations (p. 183).

**Earth Science (B.S.) Teacher Licensure in Life/Earth Science or Physical/Earth Science Requirements:** Students wanting to teach science in middle or secondary school should consult with an adviser in the College of Education and Health Professions.

## Economics (ECON)

### Faculty

**Andrew P. Brownback**, Assistant Professor

**Andrea Civelli**, Associate Professor

**Robert M. Costrell**, Professor, Endowed Chair in Education

Accountability

**William P. Curington**, Professor

**Abel Embaye**, Clinical Assistant Professor

**Amy Lynn Farmer**, University Professor, Margaret Gerig and R.S. Martin Jr. Chair in Business

**Gary D. Ferrier**, University Professor, Lewis E. Epley Jr. Professorship in Economics

**Arya Gaduh**, Assistant Professor

**David E. Gay**, University Professor

**Difei Geng**, Assistant Professor

**Jingping Gu**, Associate Professor

**Li Hao**, Assistant Professor

**Andrew W. Horowitz**, Professor

**Arva Jaduh**, Assistant Professor

**Raja Kali**, Professor, ConocoPhillips Chair in International Education

**Dongva Koh**, Assistant Professor

**Dou Young Lee**, Visiting Instructor

**Peter J. McGee**, Assistant Professor

**Muhammad Saifur Rahman**, Clinical Assistant Professor

**Robert Bruce Stapp**, Clinical Professor

**Julie R. Trivitt**, Clinical Associate Professor

William P. Curington

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Department of Economics website (<http://catalog.uark.edu/undergraduatecatalog/collegesandschools/jwilliamfulbrightcollegeofartsandsciences/economicsecon/%20http://waltoncollege.uark.edu/ECON/default.asp>)

Students in Fulbright College may pursue one of two degree plans leading to a Bachelor of Arts degree in economics. The first is a traditional major in business economics and the second includes a concentration international business and economics.

The concentration in business economics is intended for those students who are interested primarily in business, but at the same time have a desire to understand the more advanced tools of economic analysis. Such a background is excellent preparation for careers in corporate research and planning, as well as careers with government and regulatory agencies, for graduate study in business and economics, and for law school.

The international economics and business concentration is intended for students who wish to learn more about the international aspects of

economics and business. It provides preparation for a broad range of careers in business, including management, marketing, and finance.

## Requirements for a Major in Economics

In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the University Core requirements.

30 hours of ECON courses including:		30
<b>ECON 2013</b>	<b>Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)</b>	
<b>ECON 2023</b>	<b>Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)</b>	
<b>ECON 3033</b>	<b>Microeconomic Theory (Sp, Su, Fa)</b>	
<b>ECON 3133</b>	<b>Macroeconomic Theory (Sp, Fa)</b>	
Choose two of the following three courses:		
<b>ECON 4743</b>	<b>Introduction to Econometrics (Sp)</b>	
	or <b>ECON 4753</b> Forecasting (Fa)	
	or <b>ECON 4033</b> History of Economic Thought (Sp)	
12 hours of ECON Electives		
<b>COMM 1313</b>	<b>Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)</b>	3
Select one of the following:		
<b>MATH 2043</b>	<b>Survey of Calculus (ACTS Equivalency = MATH &amp; MATH 2053 2203) (Sp, Su, Fa)</b>	
	and Finite Mathematics (Sp, Su, Fa)	
<b>MATH 2554</b>	<b>Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)</b>	
<b>WCOB 1033</b>	<b>Data Analysis and Interpretation (Sp, Su, Fa)</b>	3
	or <b>STAT 2303</b> Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)	

**Note:** It is strongly recommended that economics majors who plan to continue their studies at the graduate level take at least two semesters of calculus (MATH 2554 and MATH 2564) and linear algebra (MATH 3083).

**Writing Requirement:** Students may satisfy their senior writing requirement with a paper in any 3000 or 4000-level ECON class. A student must inform their professor in writing by the end of the second week of class that they would like to use a particular course to fulfill this requirement. Work cannot involve a group project, and students must have senior standing. Completion of an honors thesis will also satisfy this requirement.

## Economics B.A. Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight Semester Degree Policy (p. 73) for requirements. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2053 Finite Mathematics (Sp, Su, Fa) <sup>1</sup> or MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	3-4	
University/State core fine arts or humanities requirement	3	
University/State core US history requirement	3	
University/State core social science requirement (not ECON)	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) <sup>1</sup> or MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa)		3-4
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa) <sup>1</sup> or ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)		3
University/State core humanities or fine arts requirement (as needed)		3
Science University/State core lecture with corequisite lab requirement		4
Year Total:	15	16

Second Year	Units	
	Fall	Spring
ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa) (as needed) <sup>1</sup> or ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)	3	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3	
General Elective	6	
WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa) or STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)	3	
Advanced Level Elective <sup>1</sup>		3
ECON 3033 Microeconomic Theory (Sp, Su, Fa) <sup>1,2</sup> or ECON 3133 Macroeconomic Theory (Sp, Fa)		3
General Electives		6
Science University/State core lecture with corequisite lab requirement		4
Year Total:	15	16

Third Year	Units	
	Fall	Spring
ECON 3133 Macroeconomic Theory (Sp, Fa) (as needed) <sup>1,2</sup> or ECON 3033 Microeconomic Theory (Sp, Su, Fa)	3	
ECON 3000-4000 level <sup>1,2</sup>	3	

General Electives	9	
ECON 4033 History of Economic Thought (Sp) <sup>1,2</sup> or ECON 4743 Introduction to Econometrics (Sp)		3
ECON 3000-4000 level <sup>1,2</sup>		3
General Electives		6
Advanced Level Elective <sup>1</sup>		3
Year Total:	15	15

Fourth Year	Units	
	Fall	Spring
ECON 3000-4000 level or ECON 4753 (as needed) <sup>1,2</sup>	3	
ECON 3000-4000 level <sup>1,2</sup>	3	
General Electives	7	
ECON 4743 Introduction to Econometrics (Sp) (as needed) or ECON 4033 History of Economic Thought (Sp)		3
3000+ Level Elective <sup>1</sup>		3
3000+ Level Elective <sup>1</sup>		3
General Electives		6
Year Total:	13	15

Total Units in Sequence: 120

## Requirements for a Major in Economics with Concentration in International Economics and Business

In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the University Core requirements.

Thirty Semester Hours of Courses, including:

<b>ECON 2013</b>	<b>Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)</b>	<b>3</b>
<b>ECON 2023</b>	<b>Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)</b>	<b>3</b>
<b>ECON 3033</b>	<b>Microeconomic Theory (Sp, Su, Fa)</b>	<b>3</b>
<b>ECON 3133</b>	<b>Macroeconomic Theory (Sp, Fa)</b>	<b>3</b>
<b>ECON 4633</b>	<b>International Trade (Sp, Fa)</b>	<b>3</b>
<b>ECON 4643</b>	<b>International Macroeconomics and Finance (Sp, Fa)</b>	<b>3</b>

Twelve hours of international economics and business electives that may be selected from:<sup>1</sup>

<b>ECON 3843</b>	<b>Economic Development, Poverty &amp; the Role of the World Bank and IMF in Low-Income Countries (Sp, Fa)</b>	<b>3</b>
<b>ECON 3853</b>	<b>Emerging Markets (Fa)</b>	<b>3</b>
<b>ECON 3933</b>	<b>The Japanese Economic System (Sp)</b>	<b>3</b>
<b>ECON 410V</b>	<b>Special Topics in Economics (Irregular)</b>	<b>1-6</b>
<b>ECON 468V</b>	<b>International Economics and Business Seminar (Irregular)</b>	<b>1-6</b>

Course pre-requisites for non-economics international business courses will count toward this 12-hour requirement and include FINN 3703, MGMT 4583, MKTG 4633 and SCMT 3643. Thus, if a student wants to take MKTG 4633 as an international economics and business elective, the student must also take the prerequisite MKTG 3433. These two courses would then satisfy 6 hours of the elective requirement.

9 hours of upper-division course work in Fulbright College that focuses on a country or region of the world related to the foreign language, which might include upper-division courses in the same language, which should emphasize literature or cultural topics. Courses must be approved by the departmental adviser. Students who meet the requirements of the Fulbright College area studies programs in Asian Studies, Middle East Studies, Latin American and Latino Studies, or European Studies will be considered to have fulfilled this requirement.

Select one of the following sequences: 6

MATH 2043	Survey of Calculus (ACTS Equivalency = MATH & MATH 2053 2203) (Sp, Su, Fa) and Finite Mathematics (Sp, Su, Fa)	
MATH 2554 & MATH 2564	Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) and Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa)	

COMM 1313	Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa) (prereq for WCOB 2053)	3
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Nine hours of Business/Stat courses to include: 9

WCOB 1033	Data Analysis and Interpretation (Sp, Su, Fa)	
	or STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)	
ACCT 2013	Accounting Principles (Sp, Su, Fa)	

And one of the following:

ACCT 2023	Accounting Principles II (Sp, Su, Fa)	
MGMT 2053	Business Foundations (Sp, Su, Fa)	
ECON 4743	Introduction to Econometrics (Sp)	
ECON 4753	Forecasting (Fa)	

(Students must also complete WCOB 1120, ISYS 1123 or equivalent.)

Six hours of a World Language at the intermediate level, or above. <sup>2</sup> 6

Three hours of upper-division world language in the same language covering business communications, or equivalent. Any student whose minimum 6-hour requirement under (#6) above includes an upper-division course may choose to include business communications among the 6 hours of required University course work in the world language. 3

Total Hours 65-75

<sup>1</sup> Course pre-requisites for non-economics international business courses will count toward this 12-hour requirement. Thus, if a student wants to take MKTG 4633 Global Marketing as an international economics and business elective, he/she also must take the prerequisite MKTG 3433 Introduction to Marketing Strategy. These two courses will satisfy 6 hours of the elective requirement,

<sup>2</sup> This is usually accomplished through completion of a sequence of world language courses: 1013 Elementary II, 2003 Intermediate I and 2013 Intermediate II.

It is strongly recommended that economics majors who plan to continue their studies at the graduate level take at least two semesters of calculus (MATH 2554 and MATH 2564) and linear algebra (MATH 3083).

**Writing Requirement:** Students may satisfy their senior writing requirement with a paper in any 3000 or 4000-level ECON class. A student must inform their professor in writing by the end of the second week of class that they would like to use a particular course to fulfill this requirement. Work cannot involve a group project, and students must have senior standing. Completion of an honors thesis will also satisfy this requirement.

### Economics B.A. with Concentration in International Economics and Business Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2053 Finite Mathematics (Sp, Su, Fa) <sup>3-4:3</sup> or MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	3	
1013 Elementary II World Language course	3	
University/state core U.S. history requirement	3	
ISYS 1120 Computer Competency Requirement (Sp, Su, Fa)	0	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) <sup>1</sup> or MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa)		3-4
ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa) <sup>1</sup>		3
ACCT 2013 Accounting Principles (Sp, Su, Fa)		3
2003 Intermediate I World Language course		3
Year Total:	15	15

Second Year	Units	
	Fall	Spring
2013 Intermediate II World Language Course	3	
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa) <sup>1</sup>	3	
WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa) or STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)	3	
ACCT 2023 Accounting Principles II (Sp, Su, Fa) or MGMT 2053 Business Foundations (Sp, Su, Fa)	3	
General Elective	3	

Advanced Level Elective <sup>1</sup>	3	
ECON 3033 Microeconomic Theory (Sp, Su, Fa) <sup>1,2</sup> or ECON 3133 Macroeconomic Theory (Sp, Fa)	3	
Upper Division World Language <sup>1,2</sup>	3	
University Core Fine Arts or Humanities requirement	3	
University Core Social Science requirement (non-ECON course)	3	
Year Total:	15	15

Third Year	Units	
	Fall	Spring
ECON 3133 Macroeconomic Theory (Sp, Fa) <sup>1,2</sup> or ECON 3033 Microeconomic Theory (Sp, Su, Fa)	3	
Upper Division World Language <sup>1,2</sup>	3	
University Core Humanities or Fine Arts requirement	3	
University Core Science Lecture with Corequisite Lab requirement	4	
General Elective	3	
ECON 4633 International Trade (Sp, Fa) <sup>1,2</sup>	3	
International Economics and Business Elective <sup>1</sup>	3	
Upper Division Foreign Language or 3000+ Fulbright College elective <sup>1,2</sup>	3	
Upper Level Area Studies from ARSC <sup>1,2</sup>	3	
University Core Science Lecture with Corequisite Lab requirement	4	
Year Total:	16	16

Fourth Year	Units	
	Fall	Spring
ECON 4643 International Macroeconomics and Finance (Sp, Fa) <sup>1,2</sup>	3	
International Economics and Business Elective <sup>1</sup>	3	
International Economics and Business Elective <sup>1</sup>	3	
Upper Level Area Studies from ARSC <sup>1,2</sup>	3	
General Electives	3	
International Economics and Business Elective <sup>1</sup>	3	
Upper Level Area Studies from ARSC <sup>1,2</sup>	3	
General Electives (as needed to total 120 degree hours)	5-7	
Year Total:	15	13

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Total Units in Sequence: 120

**Requirements for a Minor in Economics:** 18 hours in economics. Required courses are ECON 3033 Microeconomic Theory, and ECON 3133 Macroeconomic Theory, plus 12 additional hours in economics, six of which must be in courses numbered 3000 or above.

NOTE: ECON 2013 and/or ECON 2023, or ECON 2143, are prerequisites to all economics courses numbered above 3000.

**Requirements for Departmental Honors in Economics:** The Departmental Honors program provides upper-division students the opportunity to engage in independent study or research under the

guidance of an individual member of the faculty. In addition to satisfying the general college requirements for the bachelor's degree with honors, honors candidates in economics are required to complete and orally defend an honors thesis based upon independent study under ECON 399VH (for 3 to 6 hours) and to have a minimum grade-point average of 3.5. Outstanding student achievement will be recognized by awarding the bachelor's degree with the distinction "Economics Scholar *Cum Laude*." Higher distinctions may be awarded to truly outstanding students based upon the whole of their academic program and quality of honors research.

Some courses in the Walton College of Business are given credit toward an economics major for the B.A. degree. See departmental adviser for designation.

#### Economics (B.A.) Social Studies Teacher Licensure Requirements:

Please refer to the Secondary Education Requirements for Fulbright College Students (p. 186). Students wanting to teach social studies in middle school should consult with a middle level adviser in the College of Education and Health Professions.

## English (ENGL) Faculty

**Constance Bailey**, Assistant Professor  
**Grant Bain**, Instructor  
**M. Keith Booker**, Professor  
**Geoffrey Arthur Brock**, Professor  
**Sidney J. Burris**, Professor  
**Joseph D. Candido**, Professor  
**Robert Brady Cochran II**, Professor  
**Geffrey Davis**, Assistant Professor  
**Sean A. Dempsey**, Assistant Professor  
**Elías Domínguez Barajas**, Associate Professor  
**John Tabb DuVal**, Professor  
**James S. Gamble**, Instructor  
**Ellen Louise Gilchrist**, Clinical Professor  
**Laura Virginia Gray**, Instructor  
**LewEllyn Hallett**, Instructor  
**Allison Hammond**, Instructor  
**Michael Joseph Heffernan**, Professor  
**Lisa Hinrichsen**, Associate Professor  
**Toni Jensen**, Assistant Professor  
**David Alton Jolliffe**, Professor, Brown Chair in English Literacy  
**Mohja Kahf**, Associate Professor  
**Casey Lee Kayser**, Assistant Professor  
**Mary Beth Long**, Visiting Assistant Professor  
**Raina Smith Lyons**, Instructor  
**Karen Madison**, Instructor  
**Susan M. Marren**, Associate Professor  
**Davis McCombs**, Associate Professor  
**Yajaira Padilla**, Associate Professor  
**Adam Pope**, Visiting Assistant Professor  
**William A. Quinn**, Professor  
**Robin Roberts**, Professor  
**Patrick Joseph Slattery**, Associate Professor  
**Joshua Byron Smith**, Assistant Professor  
**Leigh Pryor Sparks**, Instructor  
**Dorothy Anne Stephens**, Professor  
**Lissette López Szwydky-Davis**, Assistant Professor  
**Sean Kicummah Teuton**, Associate Professor

**Claudia Vilató**, Instructor  
**Padma Viswanathan**, Assistant Professor  
**Kay Yandell**, Assistant Professor

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The Department of English offers a major in English, a minor in English, and a combined major in English and Journalism.

Contrary to popular opinion, English majors do quite well on the general job market. Businesses know that in addition to being good communicators, English majors are trained to approach problems creatively and from multiple angles. Through careful course selection, the student may prepare for postgraduate work in literature and language; meet the English requirements for secondary teaching licensure; develop writing skills; or receive preparation for careers outside academia (including law and business). Within the major, a student may explore many areas of special interest, such as composition pedagogy, creative writing, gender studies, literature of the American south, film as text, folklore, postcolonial literature, and literature in English by Native American, African American, Arab American, and Latino/Latina American authors, as well as the more traditional historical fields of English and American literature. All of these areas help students develop the broad, deep, flexible understanding of human expression that will help them for the rest of their lives — both culturally and in practical terms.

## Requirements for B.A. in English

In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following course requirements must be met.

Bolded course(s) from the list below may be applied to portions of the University Core requirements.

### English majors are required to complete the following:

The 35-hour University Core	35
One Math or Statistics course from the following list: MATH 1213 Plane Trigonometry, MATH 1284C Precalculus Mathematics, MATH 2033 Mathematical Thought, MATH 2043 Survey of Calculus, MATH 2053 Finite Mathematics, or STAT 2303 Principles of Statistics.	3-4
Choose one of the following:	3
<b>PHIL 2003</b> Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)	
<b>PHIL 2103</b> Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)	
Diversity Requirement: three hours of credit in an upper-division course that emphasizes cultural diversity, to be approved by the ENGL major advisor. The course may be in English or in another department.	3
Any world language at the 2013 Intermediate II level. <sup>1</sup>	3-9
<b>WLIT 1113</b> World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa) & <b>WLIT 1123</b> and World Literature II (ACTS Equivalency = ENGL 2123) (Sp, Su, Fa)	6

### 36 Semester Hours of ENGL to include:<sup>2</sup>

<b>ENGL 2303</b> English Literature from the Beginning through the 17th Century (ACTS = ENGL 2673) (Sp, Fa)	3
<b>ENGL 2313</b> Survey of English Literature from 1700 to 1900 (ACTS Equivalency = ENGL 2683) (Sp, Fa)	3
or <b>ENGL 2323</b> Survey of Modern and Contemporary British, Irish, and Postcolonial Literature (Sp, Fa)	
<b>ENGL 2343</b> Survey of American Lit from the Colonial Period through Naturalism (ACTS Equiv=ENGL 2653) (Sp, Fa)	3
or <b>ENGL 2353</b> Survey of Modern and Contemporary American Literature (ACTS Equivalency = ENGL 2663) (Sp, Fa)	
Select one additional survey course from one of the following:	3
<b>ENGL 2313</b> Survey of English Literature from 1700 to 1900 (ACTS Equivalency = ENGL 2683) (Sp, Fa)	
<b>ENGL 2323</b> Survey of Modern and Contemporary British, Irish, and Postcolonial Literature (Sp, Fa)	
<b>ENGL 2343</b> Survey of American Lit from the Colonial Period through Naturalism (ACTS Equiv=ENGL 2653) (Sp, Fa)	
<b>ENGL 2353</b> Survey of Modern and Contemporary American Literature (ACTS Equivalency = ENGL 2663) (Sp, Fa)	
<b>ENGL 4303</b> Introduction to Shakespeare (Sp, Su, Fa)	3
Select one of the following:	3
<b>ENGL 3713</b> Topics in Medieval Literature and Culture (Irregular)	
<b>ENGL 3723</b> Topics in Renaissance Literature and Culture (Irregular)	
<b>ENGL 3733</b> Topics in Restoration and Eighteenth-Century Literature and Culture (Irregular)	
<b>ENGL 3743</b> Topics in Nineteenth-Century British Literature and Culture (Irregular)	3
or <b>ENGL 3753</b> Topics in Modern and Contemporary British Literature and Culture (Irregular)	
Select one of the following:	3
<b>ENGL 3833</b> Topics in American Literature and Culture to 1900 (Irregular)	
<b>ENGL 3843</b> Topics in Modern and Contemporary American Literature and Culture (Irregular)	
<b>ENGL 3853</b> Topics in African-American Literature and Culture (Irregular)	
<b>ENGL 3863</b> Topics in Literature and Culture of the American South (Irregular)	
The remaining twelve hours can be taken in any English course numbered above 3000, with the stipulation that at least six of these hours must be numbered above 4000.	12
<b>Total Hours</b>	<b>89-96</b>

<sup>1</sup> This is usually accomplished through completion of a sequence of three world language courses: 1013, 2003 and 2013.

<sup>2</sup> Not counting ENGL 0002, ENGL 1013, ENGL 1023, and ENGL 2003.

All English majors are strongly encouraged to complete a minor or a second major in one of the following: African and African American Studies, Anthropology, Art History, Classical Studies, Communication, Drama, European Studies, Gender Studies, History, Indigenous Studies,

Journalism, Latin American Studies, Legal Studies, Medieval and Renaissance Studies, Middle East Studies, Music, Philosophy, Political Science, Psychology, Religious Studies, or in a world language (Arabic, French, German, Japanese, Russian, Spanish or any other language that offers a minor).

English majors are strongly encouraged to fill their elective hours with courses from the departments or programs of study listed above.

**Note About Transfer Credit:** In order to receive a B.A. in English from the University of Arkansas, a student must take at least 24 hours of credit at the 3000 or 4000-level in this department.

**Writing Requirement:** All upper-division English courses require a research or an analytical paper except ENGL 4003 and the courses in creative writing (ENGL 3013, ENGL 4013, ENGL 4023, ENGL 4073). For this reason all students who fulfill the requirements for a major in English thereby fulfill the Fulbright College writing requirement. In addition, 4000-level courses (except for those noted above) require more intensive research by, and more active participation from, students than 3000-level courses do and require each student to complete a paper that can be included as a writing sample with applications to graduate programs or professional schools.

**Assessment Requirement:** Every senior English major must take the program assessment exam administered by the department each spring semester to graduate. Exam results will not affect GPA, although the student's score will be noted on his or her permanent academic record. This requirement may be waived in extraordinary circumstances by the department's Director of Undergraduate Studies. Contact your adviser for more information.

## English B.A. Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3	
WLIT 1113 World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)	3	
1013 Elementary II World Language course or higher (depending on placement in sequence)	3	
University/State Core Fine Arts or US History Course requirement	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
2003 Intermediate I World Language Course (or higher)		3
WLIT 1123 World Literature II (ACTS Equivalency = ENGL 2123) (Sp, Su, Fa)		3
University/State Core Social Science requirement		3

Science University/State Core Lecture with Corequisite Lab requirement		4
Year Total:	15	16

	Units	
	Fall	Spring
ENGL from Group A <sup>1</sup>	3	
ENGL from Group A or General Elective	3	
PHIL 2003 Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa) or PHIL 2103 Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)	3	
2013 Intermediate II World Language Course (as needed)	3	
General Elective	3	
ENGL from Group A or General Elective		3
3000-4000 Level Elective <sup>1</sup>		3
University/State Core US History or Fine Arts requirement (as needed)		3
One Math or Statistics course from the following list: MATH 1213 Plane Trigonometry, MATH 1284C Precalculus Mathematics, MATH 2033 Mathematical Thought, MATH 2043 Survey of Calculus, MATH 2053 Finite Mathematics, or STAT 2303 Principles of Statistics.		3
Diversity Requirement <sup>1,2</sup>		3
Year Total:	15	15

	Units	
	Fall	Spring
ENGL from Group A <sup>1</sup>	3	
ENGL from Group B or C <sup>1,2</sup>	3	
University/State Core Social Science requirement	3	
Science University/State Core Lecture with Corequisite Lab requirement	4	
3000-4000 Level Elective <sup>1</sup>	3	
ENGL from Group A (as needed) or General Elective <sup>1</sup>		3
ENGL from Group B or C <sup>1,2</sup>		3
University/state core social science requirement		3
General Electives		6
Year Total:	16	15

	Units	
	Fall	Spring
ENGL from Group B or C <sup>1,2</sup>	3	
ENGL from Group B or C <sup>1,2</sup>	3	
ENGL from Group B or C <sup>1,2</sup>	3	
General Electives	6	
ENGL from Group B or C <sup>1,2</sup>		3
ENGL from Group B or C <sup>1,2</sup>		3
ENGL from Group B or C <sup>1,2</sup>		3
General Electives		4
Year Total:	15	13

Total Units in Sequence:	120
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<sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations (p. 183).

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations (p. 183).

**Group A**

ENGL 2303	English Literature from the Beginning through the 17th Century (ACTS = ENGL 2673) (Sp, Fa)	3
ENGL 2313	Survey of English Literature from 1700 to 1900 (ACTS Equivalency = ENGL 2683) (Sp, Fa)	3
or ENGL 2323	Survey of Modern and Contemporary British, Irish, and Postcolonial Literature (Sp, Fa)	
ENGL 2343	Survey of American Lit from the Colonial Period through Naturalism (ACTS Equiv=ENGL 2653) (Sp, Fa)	3
or ENGL 2353	Survey of Modern and Contemporary American Literature (ACTS Equivalency = ENGL 2663) (Sp, Fa)	
Select one from one of the following remaining survey courses:		3
ENGL 2313	Survey of English Literature from 1700 to 1900 (ACTS Equivalency = ENGL 2683) (Sp, Fa)	
ENGL 2323	Survey of Modern and Contemporary British, Irish, and Postcolonial Literature (Sp, Fa)	
ENGL 2343	Survey of American Lit from the Colonial Period through Naturalism (ACTS Equiv=ENGL 2653) (Sp, Fa)	
ENGL 2353	Survey of Modern and Contemporary American Literature (ACTS Equivalency = ENGL 2663) (Sp, Fa)	
Total Hours		12

**Group B**

Select one of the following:		3
ENGL 3713	Topics in Medieval Literature and Culture (Irregular)	
ENGL 3723	Topics in Renaissance Literature and Culture (Irregular)	
ENGL 3733	Topics in Restoration and Eighteenth-Century Literature and Culture (Irregular)	
ENGL 3743	Topics in Nineteenth-Century British Literature and Culture (Irregular)	3
or ENGL 3753	Topics in Modern and Contemporary British Literature and Culture (Irregular)	
Select one of the following:		3
ENGL 3833	Topics in American Literature and Culture to 1900 (Irregular)	
ENGL 3843	Topics in Modern and Contemporary American Literature and Culture (Irregular)	
ENGL 3853	Topics in African-American Literature and Culture (Irregular)	
ENGL 3863	Topics in Literature and Culture of the American South (Irregular)	

ENGL 4303	Introduction to Shakespeare (Sp, Su, Fa)	3
Total Hours		12

**Group C**

Twelve additional hours in English courses numbered above 3000, at least six of which must be numbered above 4000.

Total Hours	12
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## Requirements for B.A. in English with a Concentration in Creative Writing

In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following course requirements must be met. Bolded course(s) from the list below may be applied to portions of the University/state minimum core requirements.

**English majors are required to complete the following:**

The 35-hour University Core		35
PHIL 2003	Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)	3
Any world language at the 2013 Intermediate II level <sup>1</sup>		3-9
WLIT 1113	World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)	3
WLIT 1123	World Literature II (ACTS Equivalency = ENGL 2123) (Sp, Su, Fa)	3
<b>36 Semester Hours</b> <sup>2</sup>		
ENGL 3203	Poetry (Sp, Fa)	3
ENGL 3213	Fiction (Sp, Fa)	3
ENGL 2023	Creative Writing I (ACTS Equivalency = ENGL 2013) (Sp, Fa)	3
ENGL 3013	Creative Writing II (Sp, Fa)	3
ENGL 4013	Undergraduate Poetry Workshop (Irregular)	3
or ENGL 4023	Undergraduate Fiction Workshop (Irregular)	
ENGL 2303	English Literature from the Beginning through the 17th Century (ACTS = ENGL 2673) (Sp, Fa)	3

Select three of the following:		9
ENGL 2313	Survey of English Literature from 1700 to 1900 (ACTS Equivalency = ENGL 2683) (Sp, Fa)	
ENGL 2323	Survey of Modern and Contemporary British, Irish, and Postcolonial Literature (Sp, Fa)	
ENGL 2343	Survey of American Lit from the Colonial Period through Naturalism (ACTS Equiv=ENGL 2653) (Sp, Fa)	
ENGL 2353	Survey of Modern and Contemporary American Literature (ACTS Equivalency = ENGL 2663) (Sp, Fa)	
ENGL 4303	Introduction to Shakespeare (Sp, Su, Fa)	3
Six additional hours chosen from ENGL courses numbered above 3000 and WLIT courses numbered above 2333.		6

**Note About Transfer Credit:** In order to receive a B.A. in English from the University of Arkansas, a student must take at least 24 hours of credit at the 3000 or 4000-level in this department.

<sup>1</sup> This is usually accomplished through completion of a sequence of three world language courses: 1013, 2003 and 2013.



<sup>2</sup> Not counting ENGL 0002, ENGL 1013, ENGL 1023, and ENGL 2003

**Writing Requirement:** All upper-division English courses require a research or an analytical paper except ENGL 4003 and the courses in creative writing (ENGL 3013, ENGL 4013, ENGL 4023, ENGL 4073). For this reason all students who fulfill the requirements for a major in English thereby fulfill the Fulbright College writing requirement. In addition, 4000-level courses (except for those noted above) require more intensive research by, and more active participation from, students than 3000-level courses do and require each student to complete a paper that can be included as a writing sample with applications to graduate programs or professional schools.

**Assessment Requirement:** Every senior English major must take the program assessment exam administered by the department each spring semester to graduate. Exam results will not affect GPA, although the student's score will be noted on his or her permanent academic record. This requirement may be waived in extraordinary circumstances by the department's Director of Undergraduate Studies. Contact your adviser for more information.

## English B.A. with a Concentration in Creative Writing Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3	
WLIT 1113 World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)	3	
1013 Elementary II World Language Course or higher (depending on placement in sequence)	3	
University/State Core Fine Arts or U.S. History Course requirement	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
2003 Intermediate I World Language Course (or higher)		3
WLIT 1123 World Literature II (ACTS Equivalency = ENGL 2123) (Sp, Su, Fa)		3
University/State Core Social Science requirement		3
Science University/State Core Lecture with Corequisite Lab requirement		4
Year Total:	15	16

Second Year	Units	
	Fall	Spring
ENGL from Group A <sup>1</sup>	3	
ENGL from Group A or General Elective	3	

Advanced Level Elective <sup>1</sup>	3	
PHIL 2003 Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)	3	
2013 Intermediate II World Language Course (as needed)	3	
ENGL from Group A <sup>1</sup>		3
Advanced Level Elective <sup>1</sup>		3
University/State Core US History or Fine Arts requirement		3
University/State Core Social Science requirement		3
General Elective		3
Year Total:	15	15

Third Year	Units	
	Fall	Spring
ENGL from Group A <sup>1</sup>	3	
ENGL 2023 Creative Writing I (ACTS Equivalency = ENGL 2013) (Sp, Fa) <sup>1</sup>	3	
University/State Core Social Science requirement	3	
Science University/State Core Lecture with Corequisite Lab requirement	4	
General Elective	3	
ENGL from Group A (if needed) or General Elective <sup>1</sup>		3
ENGL from Group B or C <sup>1,2</sup>		3
General Electives		9
Year Total:	16	15

Fourth Year	Units	
	Fall	Spring
ENGL 3013 Creative Writing II (Sp, Fa) <sup>1,2</sup>	3	
ENGL from Group B or C <sup>1,2</sup>	3	
ENGL from Group B or C <sup>1,2</sup>	3	
3000-4000 Level Elective <sup>1</sup>	3	
General Electives	1	
ENGL 4013 Undergraduate Poetry Workshop (Irregular) <sup>1,2</sup> or ENGL 4023 Undergraduate Fiction Workshop (Irregular)		3
ENGL from Group B or C <sup>1,2</sup>		3
ENGL from Group B or C <sup>1,2</sup>		3
3000-4000 Level Fulbright College Elective <sup>1,2</sup>		3
3000-4000 General Elective <sup>1</sup>		3
Year Total:	13	15

Total Units in Sequence: 120

<sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations (p. 183).

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations (p. 183).

### Group A

ENGL 2303	English Literature from the Beginning through the 17th Century (ACTS = ENGL 2673) (Sp, Fa) (Required)	3
ENGL 2313	Survey of English Literature from 1700 to 1900 (ACTS Equivalency = ENGL 2683) (Sp, Fa)	3
or ENGL 2323	Survey of Modern and Contemporary British, Irish, and Postcolonial Literature (Sp, Fa)	
ENGL 2343	Survey of American Lit from the Colonial Period through Naturalism (ACTS Equiv=ENGL 2653) (Sp, Fa)	3
or ENGL 2353	Survey of Modern and Contemporary American Literature (ACTS Equivalency = ENGL 2663) (Sp, Fa)	
Select from one of the following remaining survey courses:		3
ENGL 2313	Survey of English Literature from 1700 to 1900 (ACTS Equivalency = ENGL 2683) (Sp, Fa)	
ENGL 2323	Survey of Modern and Contemporary British, Irish, and Postcolonial Literature (Sp, Fa)	
ENGL 2343	Survey of American Lit from the Colonial Period through Naturalism (ACTS Equiv=ENGL 2653) (Sp, Fa)	
ENGL 2353	Survey of Modern and Contemporary American Literature (ACTS Equivalency = ENGL 2663) (Sp, Fa)	

Total Hours 12

#### Group B

ENGL 3203	Poetry (Sp, Fa)	3
ENGL 3213	Fiction (Sp, Fa)	3
ENGL 4303	Introduction to Shakespeare (Sp, Su, Fa)	3

Total Hours 9

#### Group C

Six additional hours chosen from English or World Literature courses numbered above 3000

Total Hours 6

## Requirements for a Combined Major in English and Journalism

All university students must fulfill the minimum University Core requirements (p. 81). A minimum of 72 hours in non-journalism courses must be applied toward the 120 hours required by the college for a Bachelor of Arts degree. Bolded courses from the list below may be counted toward some part of the University Core/state minimum core requirements, as applicable.

Select one of the following: 3

MATH 2033	Mathematical Thought (Sp, Su, Fa)	
MATH 2043	Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)	
MATH 2053	Finite Mathematics (Sp, Su, Fa)	
MATH 2183	Mathematical Reasoning in a Quantitative World (Sp, Fa)	
STAT 2303	Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)	

Or Higher Level MATH

**Intermediate I (course number 2003) of a World Language.**<sup>1</sup> 3-6

Select one of the following: 3

WLIT 1113	World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)	
WLIT 1123	World Literature II (ACTS Equivalency = ENGL 2123) (Sp, Su, Fa)	
An Advanced Literature Course		
A Language Literature Course		
Select one of the following:		3
PHIL 2003	Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)	
PHIL 2103	Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)	
Any Philosophy Course at the 3000-level or higher (recommended: PHIL 3103 Ethics and the Professions) higher		
PLSC 2003	American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)	3
A second PLSC Course (the following are recommended options):		3
PLSC 2813	Introduction to International Relations (Sp, Fa)	
PLSC 3233	The American Congress (Fa)	
PLSC 4233	The American Chief Executive (Sp)	
ECON 2143	Basic Economics: Theory and Practice (Sp, Su, Fa)	3-6
or ECON 2013	Principles of Macroeconomics (ACTS Equivalency = & ECON 2023 ECON 2103) (Sp, Su, Fa)	
and Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)		
COMM 1313	Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3
3000-4000 level HIST Course *		3
3 hours of cultural/diversity studies to be selected from the following or as approved by the School of Journalism and Strategic Media		3
ANTH 4533	Middle East Cultures (Sp)	
COMM 4343	Intercultural Communication (Sp)	
HIST 3233	African American History to 1877 (Sp, Fa) *	
HIST 3243	African American History Since 1877 (Sp, Fa) *	
HIST 3263	History of the American Indian (Fa) *	
SCWK 3193	Human Diversity and Social Work (Sp, Su, Fa)	
JOUR 3263	African Americans in Film (Irregular) **	
JOUR 4923	History of the Black Press (Even years, Sp) **	
SCWK 3193	Human Diversity and Social Work (Sp, Su, Fa)	
SOCI 3193	Race, Class, and Gender in America (Sp, Fa) (SOCI 2013 prerequisite)	

Other cultural/diversity-related topics as approved by the School of Journalism and Strategic Media

<sup>1</sup> The number of credit hours taken to complete this level of proficiency depends on placement level in the language course sequence.

\* A cultural/diversity-approved HIST course is allowed to also satisfy the major's 3000-4000 level HIST course requirement.

\*\* A cultural/diversity-approved JOUR course is also allowed to satisfy a JOUR elective.

**The Journalism requirements for this combined major are as follows:**

The journalism requirement may be satisfied by 24 semester hours of courses, including JOUR 1023, JOUR 1033, and JOUR 3633. The remaining 15 hours are filled from the following concentrations.

**News/Editorial Concentration:**

JOUR 2013	News Reporting I (Sp, Fa)	3
JOUR 3013	Editing (Sp, Fa)	3
JOUR 3023	News Reporting II (Sp, Fa)	3
	or JOUR 4503 Magazine Writing (Sp)	
	or JOUR 4553 Magazine Editing and Production I (Sp)	
JOUR 3123	Feature Writing (Sp, Fa)	3
One Additional Journalism Course		3
Total Hours		15

**Broadcast Concentration:**

JOUR 2032 & JOUR 2031L	Broadcast News Reporting I (Sp, Fa) and Broadcast News Reporting I Laboratory (Sp, Fa)	3
JOUR 3072 & JOUR 3071L	Broadcast News Reporting II (Sp, Fa) and Broadcast News Reporting II Laboratory (Sp, Fa)	3
JOUR 4863	Television News Reporting I (Sp, Fa)	3
JOUR 4873	Television News Reporting II (Sp, Fa)	3
One Additional Journalism Course		3
Total Hours		15

**The English requirements for this combined major are as follows:**

24 hours of English courses (not counting ENGL 0002, ENGL 1013, ENGL 1023, and ENGL 2003) to include any nine hours of survey courses chosen from:

ENGL 2303	English Literature from the Beginning through the 17th Century (ACTS = ENGL 2673) (Sp, Fa)	3
ENGL 2313	Survey of English Literature from 1700 to 1900 (ACTS Equivalency = ENGL 2683) (Sp, Fa)	3
ENGL 2323	Survey of Modern and Contemporary British, Irish, and Postcolonial Literature (Sp, Fa)	3
ENGL 2343	Survey of American Lit from the Colonial Period through Naturalism (ACTS Equiv=ENGL 2653) (Sp, Fa)	3
ENGL 2353	Survey of Modern and Contemporary American Literature (ACTS Equivalency = ENGL 2663) (Sp, Fa)	3

and 15 additional hours chosen from English courses numbered above 3000 and WLIT courses above 2333.

In addition, students are strongly recommended to complete up through the 2013 Intermediate II level of a world language.

**Writing Requirement:** All upper division English courses require a research or an analytical paper except ENGL 4003 and the courses in creative writing: (ENGL 3013, ENGL 4013, ENGL 4023, and ENGL 4073). For this reason, all students who fulfill the requirements for the combined major in Journalism and English thereby fulfill the Fulbright College writing requirement.

**Assessment Requirement:** Every senior English major must take the program assessment exam administered by the department each spring semester to graduate. Exam results will not affect GPA, although the student's score will be noted on his or her permanent academic record. This requirement may be waived in extraordinary circumstances by the department's Director of Undergraduate Studies. Contact your adviser for more information.

## Combined Major in English and Journalism Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) or MATH 2033 Mathematical Thought (Sp, Su, Fa) or MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) or MATH 2053 Finite Mathematics (Sp, Su, Fa) or MATH 2183 Mathematical Reasoning in a Quantitative World (Sp, Fa) or MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) or STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)	3-4	
JOUR 1023 Media and Society (Sp, Fa) or JOUR 1033 Fundamentals of Journalism (Sp, Su, Fa)		3
PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa) (or fine arts university/state core requirement)		3
1013 Elementary II world language course (depending on placement in sequence)		3
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
MATH 2033 Mathematical Thought (Sp, Su, Fa) (if higher MATH still needed, else non-JOUR General Elective) or MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) or MATH 2053 Finite Mathematics (Sp, Su, Fa) or MATH 2183 Mathematical Reasoning in a Quantitative World (Sp, Fa) or MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) or STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)		3-4
JOUR 1033 Fundamentals of Journalism (Sp, Su, Fa) (as needed) or JOUR 1023 Media and Society (Sp, Fa)		3
Science university/state core lecture and corequisite lab		4

2003 Intermediate I world language course (depending on placement in sequence)	3	
Year Total:	15	16

**Second Year**

	Units	
	Fall	Spring
ENGL from survey group <sup>†</sup>	3	
JOUR 2013 News Reporting I (Sp, Fa)	3	
Advanced general elective <sup>†</sup>	3	
2013 Intermediate II world language course (strongly recommended)	3	
Fine arts university/state core requirement or PLSC 2003 American National Government	3	
ENGL from survey group <sup>†</sup>	3	
JOUR 3013 Editing (Sp, Fa) (for Print or JOUR 2032/2031L for Broadcast) <sup>††</sup>	3	
Social Science University/state core requirement	3	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3	
PHIL 2003 Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa) or PHIL 2103 Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)	3	
Year Total:	15	15

**Third Year**

	Units	
	Fall	Spring
JOUR 3023 News Reporting II (Sp, Fa) (for Print or JOUR 3072/3071L for Broadcast)	3	
ENGL from survey group <sup>†</sup>	3	
Social science University/state core requirement	3	
WLIT 1113 World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa) or WLIT 1123 World Literature II (ACTS Equivalency = ENGL 2123) (Sp, Su, Fa)	3	
Science university/state core lecture and corequisite lab	4	
JOUR 3633 Media Law (Sp, Fa) <sup>††</sup>	3	
ENGL/WLIT Upper Level Elective <sup>††</sup>	3	
Second PLSC course or ECON 2143 Basic Economics	3	
Cultural/Diversity Requirement or 3000+ HIST course <sup>††</sup>	3	
General Electives	3	
Year Total:	16	15

**Fourth Year**

	Units	
	Fall	Spring
ENGL/WLIT Upper Level Electives <sup>††</sup>	6	
JOUR 3123 Feature Writing (Sp, Fa) (for Print or JOUR 4863 for Broadcast) <sup>††</sup>	3	
3000+ HIST course or ††Cultural/Diversity Requirement as needed <sup>††</sup>	3	

ECON 2143 Basic Economics: Theory and Practice (Sp, Su, Fa) (or second PLSC course as needed)	3	
ENGL/WLIT Upper Level Electives <sup>††</sup>		6
JOUR Upper-level Elective (Print) or ††JOUR 4873 Television News Reporting II (Broadcast)		3
General Elective (Print) or JOUR Upper-level Elective (Broadcast) <sup>††</sup>		3
General Elective		1
Year Total:	15	13

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Total Units in Sequence: 120

**Requirements for a Minor in English:** 18 hours of English (not counting ENGL 0002, ENGL 1013, ENGL 1023, and ENGL 2003) to include any nine hours of survey courses (chosen from ENGL 2303, ENGL 2313, ENGL 2323, ENGL 2343, and ENGL 2353) and nine additional hours chosen from English courses numbered above 3000 and WLIT courses above 2333.

**Requirements for Graduation with Honors in English:** Both the College and the Departmental Honors Program in English allow upper-division undergraduates to strengthen their study of English and adapt it to their interests. Honors candidates enroll in special courses and do directed independent study and research. In addition to the college and departmental requirements for the major in English and the general college requirements for the B.A. degree, each honors candidate in English must

1. Be accepted as an honors candidate by the department (requiring a minimum, cumulative grade-point average of 3.5 in all course work),
2. Complete at least nine hours of non-thesis honors course work, at least three hours of which must be in English,
3. Enroll in at least three hours of Senior Thesis ENGL 498V and write an honors thesis (either a critical study or a creative writing project) under the direction of a faculty member in the Department of English, and
4. Defend the candidate's entire honors program in an oral examination.

Candidates may petition to enroll in a departmental graduate seminar. To complete the required thesis successfully, candidates should choose an honors thesis adviser as early as possible. An adviser should be selected, and an Honors Agreement completed, no later than the first semester in a candidate's junior year. Candidates who complete the honors program with merit will graduate with the distinction "English Scholar *Cum Laude*." The distinctions of *Magna Cum Laude* and *Summa Cum Laude* will be awarded only for exceptional work and will be based on the candidate's entire honors program.

**English (B.A.) Teacher Licensure Requirements:**

Please refer to the Secondary Education Requirements (p. 186) for Fulbright College Students.

Students wanting to teach English in middle school should consult with a middle-level adviser in the College of Education and Health Professions.

## European Studies (EUST)

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Director of Studies  
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<http://eust.uark.edu>

Courses are offered in European studies, broadly defined as the study of the geography, culture, history, language, and politics of central Europe, including the British Isles.

Students wishing to maximize their knowledge of European studies and wishing to prepare for graduate training and/or employment in the private sector or government in positions related to the area may earn a second major in European studies together with a major in another discipline. Students are required to coordinate their academic programs both with their advisers in the primary major department and with the director of the European Studies program. New students entering the program are required to notify both the major adviser and the director of studies of their intention to participate. Freshmen and sophomores considering this program are advised to begin their study of an appropriate foreign language as early as possible.

## Requirements for a Second Major in European Studies

In addition to the requirements of a primary departmental major, students pursuing a combined major in European Studies must complete the following:

**Language Requirement:** Students must complete the equivalent of a third year of a modern European language, e.g., six hours of advanced 3000- or 4000-level work in French, German, or Spanish. Less commonly taught languages such as Portuguese, Russian, or Italian may be used, subject to the availability of courses. Three to six hours in one of these languages in an approved study abroad program in Europe may substitute for all or part of this requirement. For native speakers of a European language other than English, this requirement is waived.

**Introduction to Europe:** Students must complete EUST 2013 Introduction to Europe (Fa), preferably before taking the colloquium.

**European Studies Colloquium:** Students must complete three hours of EUST 4003 European Studies Colloquium (Sp).

**Electives:** Students must complete at least 18 hours of credit, in addition to the language requirement and the European studies colloquium, from among the following or in individualized studies under the direction of faculty participating in the program. Students choosing to take individualized reading or directed research courses as part of the major or minor must obtain the approval of the director of the area studies program and their major adviser. In addition, the following conditions apply:

1. A maximum of nine hours may be submitted from any one department, and
2. A maximum of six hours may be submitted from courses taken in the student's major department.

The following courses may be taken in fulfillment of elective requirements:

### Art History

ARHS 4873	Baroque Art (Irregular)	3
ARHS 4883	18th and 19th Century European Art (Irregular)	3
ARHS 4893	20th Century European Art (Irregular)	3

### English

Any 3000- or 4000-level course in 18th, 19th, or 20th century British, Irish, Scots, or continental literature, any comparative literature course with significant European content.

### European Studies

EUST 4003	European Studies Colloquium (Sp)	3
	or EUST 4003H-Honors European Studies Colloquium (Sp)	
	(Must be a different topic from the required colloquium.)	

### World Languages

Any 3000- or 4000-level French, German, Italian, Russian or peninsular Spanish literature or civilization course

### Geography

GEOS 4243	Political Geography (Odd years, Fa)	3
GEOS 4783	Geography of Europe (Irregular)	3

### History

HIST 3423	British History, 1688-Present (Irregular)	3
HIST 3433	Twentieth Century Britain through Film (Irregular)	3
HIST 3443	Modern Imperialism (Odd years, Fa)	3
HIST 3453	Modern Terrorism (Irregular)	3
HIST 3533	World War II (Sp)	3
HIST 3543	Russia to 1861 (Fa)	3
HIST 3553	Russia Since 1861 (Sp)	3
HIST 3573	World War I (Even years, Fa)	3
HIST 3683	Europe in the 19th Century (Irregular)	3
HIST 3693	Europe in the 20th Century (Irregular)	3
HIST 3833	Special Topics in European History (Irregular)	3
HIST 4073	Renaissance and Reformation, 1300-1600 (Even years, Fa)	3
HIST 4083	Early Modern Europe, 1600-1800 (Odd years, Sp)	3
HIST 4133	Society and Gender in Modern Europe (Odd years, Sp)	3
HIST 4143	Intellectual History of Europe Since the Enlightenment (Even years, Fa)	3
HIST 4153	Modern Ireland, 1798-1948 (Irregular)	3
HIST 4163	Tudor-Stuart England, 1485-1714 (Even years, Sp)	3
HIST 4183	Great Britain, 1707-1901 (Even years, Fa)	3
HIST 4193	Great Britain, 1901-2001 (Odd years, Sp)	3
HIST 4203	History of the Holocaust (Irregular)	3
HIST 4213	The Era of the French Revolution (Odd years, Fa)	3
HIST 4223	France Since 1815 (Even years, Sp)	3
HIST 4243	Germany, 1789-1918 (Irregular)	3
HIST 4253	Germany, 1918-1945 (Irregular)	3
HIST 4803	Modern Scandinavia (Irregular)	3
HIST 4873	Germany since 1945 (Irregular)	3

### Music History

MUHS 3703	History of Music to 1750 (Fa)	3
MUHS 3713	History of Music from 1750 to Present (Sp)	3
MUHS 4253	Special Topics in Music History (Sp, Fa)	3

### Philosophy

PHIL 4033	Modern Philosophy-17th and 18th Centuries (Sp)	3
PHIL 4043	Nineteenth Century Continental Philosophy (Irregular)	3
PHIL 4063	Twentieth Century Continental Philosophy (Irregular)	3
PHIL 4073	History of Analytic Philosophy (Irregular)	3

### Political Science

PLSC 3553	Western European Politics (Irregular)	3
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PLSC 4563	Government and Politics of Russia (Even years, Sp)	3
PLSC 4803	Foreign Policy Analysis (Irregular)	3

## Requirements for a Minor in European Studies

Students wishing to minor in European studies must fulfill the EUST 2013 Introduction to Europe (Fa) and EUST 4003 European Studies Colloquium (Sp) requirements and the language requirements described under the requirements for the major. They also must complete at least 12 hours from among the electives listed for the major. Three of these credit hours may come from a study abroad experience. A maximum of six hours of electives may be submitted from any one department.

## Honors Requirements in European Studies

**Requirements for Honors in EUST:** The Honors Program in European Studies gives junior and senior students of high ability the opportunity to enroll in enriched courses and conduct independent research culminating in an honors thesis. In addition to satisfying the general Fulbright College requirements for graduation and the basic eligibility requirements for honors as established by the Honors Council, candidates for honors in European Studies must complete 12 hours of honors credit in partial satisfaction of requirements for the co-major. One to six of these may be thesis hours (EUST 399VH). The preferred method for satisfying the remaining hours is to enroll in the colloquium at least once for honors credit (EUST 4003H) and to take relevant honors colloquia or graduate courses (with permission) in one of the departments contributing to this interdisciplinary area study. The thesis committee shall include a representative from the major discipline (in the case of multiple majors, from the discipline contributing most significantly to the topic). Successful completion of these requirements will be recognized by the award of the distinction "European Studies Scholar *Cum Laude*" at graduation. Higher degree distinctions are recommended only in exceptional cases and are based upon the whole of the candidate's program of honors studies.

## Gender Studies (GNST)

Lisa Corrigan  
Director of Studies  
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479-575-3046

The gender studies minor introduces students to the ways that various academic disciplines have examined women's and men's differing participation in work, the family, political systems, and creative endeavors. Courses explore sex and gender differences and such concepts as masculinity and femininity, essence and performance; distributions of power, work, and resources; and the symbolic representation of gender and identity in literature, religion, and art. The minor is often chosen by students interested in investigating materials previously neglected by scholars and in fresh perspectives on traditional subject matter.

**Requirements for a Minor in Gender Studies:** The student must complete 15 credit hours of regular courses.

GNST 2003	Introduction to Gender Studies (Sp, Fa)	3
Choose 12 credit hours from the following or from special topics and seminars found in each semester's schedule of classes under Gender Studies.		
ANTH 3163	Male and Female: A Cultural and Biological Overview (Fa)	12

ANTH 3523	Gender and Politics in Latin America (Irregular)
ANTH/AAST 4063	Women in Africa (Irregular)
CLST 4003H	Honors Classical Studies Colloquium (Sp)
COMM 3433	Family Communication (Fa)
COMM 3983	Special Topics (Sp, Su, Fa)
COMM 4333	Communication and Gender (Fa)
COMM 4363	Gender, Race and Power (Irregular)
COMM 4733	Reel Women (Fa)
COMM 4743	Representational Issues in Film (Sp)
ENGL 3593	Topics in Gender, Sexuality, and Literature (Irregular)
ENGL 4533	Studies in Literature and Gender (Irregular)
HIST 3083	Women and Christianity (Irregular)
HIST 3923H	Honors Colloquium (Irregular) (The History of Sex/ Sexuality in America)
HIST 3923H	Honors Colloquium (Irregular) (Russian and Soviet Women)
HIST 4133	Society and Gender in Modern Europe (Odd years, Sp)
HIST 4413	New Women in the Middle East (Irregular)
HIST/AAST 4953	The History of Sub-Saharan African Women (Irregular)
HUMN 3923H	Honors Colloquium (Irregular)
LAST 4003	Latin American Studies Colloquium (Sp)
PLSC 4573	Gender and Politics (Irregular)
PBHL 1303	Introduction to Human Sexuality (Sp, Fa) or PBHL 13CHonors Introduction to Human Sexuality (Sp, Fa)
PLSC 4573	Gender and Politics (Irregular)
SOCI 3263	Families and Social Change (Sp)
WLIT 3983	Special Studies (Irregular) (Women and Arabic Literature)

Total Hours

15

## Geography (GEOG)

The Geography Program offers an undergraduate major leading to a Bachelor of Arts in geography. Students may choose either the normal geography degree program or the concentration in cartography and remote-sensing GIS. The program also offers two minors: geography and historic preservation.

Undergraduates who wish to major in geography should identify themselves to the department as soon as possible in order that they may develop a meaningful sequence of courses and take part in departmental activities.

Those interested in the graduate program should consult the Graduate School Catalog (<http://catalog.uark.edu/graduatecatalog/programsofstudy/geosciencesdepartmentofgeos>).

**Requirements for a Major in Geography:** In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the University/state minimum core requirements.

GEOS 1123	Human Geography (ACTS Equivalency = GEOG 1113) (Sp, Su, Fa)	3
GEOS 2003	World Regional Geography (ACTS Equivalency = GEOG 2103) (Sp, Fa)	3
GEOS 1113 & GEOS 1111L	General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa) and General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)	4
GEOS 1133 & GEOS 1131L	Earth Science (ACTS Equivalency = GEOL 1124 Lecture) (Sp, Fa) and Earth Science Laboratory (ACTS Equivalency = GEOL 1124 Lab) (Sp, Fa)	4
Six hours in a single world language at the 1013 Elementary II level or higher. <sup>1</sup>		6
GEOS 3023	Introduction to Cartography (Fa)	3
GEOS 3543	Geospatial Applications and Information Science (Sp, Fa)	3

In addition, students must complete a minimum of 15 hours of GEOS at the 3000-level or above, classes must include one technical, two regional and two topical courses.

Total Hours 41

<sup>1</sup> World language courses taken are dependent on placement level in sequence.

Students who expect to enter graduate school are encouraged to register for GEOS 410V their senior year. Electives in closely related fields are considered a part of the program and, upon prior approval of the department, six hours may be counted toward the major. Those planning to teach in secondary schools should note that they can both earn their degree in geography and qualify for a teaching certificate; they should consult with the department as early as possible.

**Writing Requirement:** The college writing requirement is to be met by completion of a term paper deemed satisfactory by the student's adviser and instructor of an upper-level geoscience course. The college writing requirement may also be met by the completion of an honors thesis.

## Geography B.A. Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

First Year	Units	
	Fall	Spring
GEOS 1123 Human Geography (ACTS Equivalency = GEOG 1113) (Sp, Su, Fa)	3	
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (or any higher level math)	3-4	
1013 Elementary II World Language Course	3	
University/State Core Fine Arts, Humanities or U.S. History requirement	3	

GEOS 1113 General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa) & GEOS 1111L General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)	4
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)	3
2003 Intermediate I World Language Course (or higher)	3
University/State Core Humanities, U.S. History, or Fine Arts requirement (as needed)	3
General Elective	3
Year Total:	15 16

Second Year	Units	
	Fall	Spring
GEOS 2003 World Regional Geography (ACTS Equivalency = GEOG 2103) (Sp, Fa)	3	
GEOS 1133 Earth Science (ACTS Equivalency = GEOL 1124 Lecture) (Sp, Fa) & GEOS 1131L Earth Science Laboratory (ACTS Equivalency = GEOL 1124 Lab) (Sp, Fa)	4	
University/State Core U.S. History, Fine Arts, or Humanities Course (as needed)	3	
University/State Core Social Science requirement (non-GEOS course)	3	
General Elective	3	
GEOS 3000 Level or Above Elective <sup>2</sup>		3
Advanced Level Elective <sup>1</sup>		3
General Electives		9
Year Total:	16	15

Third Year	Units	
	Fall	Spring
GEOS 3023 Introduction to Cartography (Fa) <sup>2</sup>	3	
GEOS 3000-level or Above Elective <sup>2</sup>	3	
General Electives	9	
GEOS 3543 Geospatial Applications and Information Science (Sp, Fa)		3
GEOS 3000-level or Above Elective <sup>2</sup>		3
Advanced Level Elective <sup>1</sup>		3
General Electives		6
Year Total:	15	15

Fourth Year	Units	
	Fall	Spring
GEOS 3000-level or above Elective <sup>2</sup>	3	
3000-plus Upper Level ARSC Elective with Departmental Consent <sup>2</sup>	3	
Advanced Level Elective <sup>1</sup>	3	
General Electives	6	
GEOS 3000-level or above Elective		3
3000-plus Upper Level ARSC Elective with Departmental Consent <sup>2</sup>		3
3000-plus Upper Level ARSC Elective <sup>2</sup>		3

3000-plus Upper Level Elective <sup>1</sup>	3
General Elective	1
Year Total:	15 13
<hr/>	
Total Units in Sequence:	120

<sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations (p. 183).

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations (p. 183).

## Cartography/Remote Sensing GIS Concentration

**Requirements for a Major in Geography with Cartography/Remote Sensing Concentration:** This program gives students an opportunity to develop expertise in (1) cartography, map design and computer-assisted map production, (2) remote sensing and image interpretation, including photographic systems, sensor systems, and digital image processing, and (3) geographic information systems, including data sources, analytical techniques, and hardware/software systems.

To complete the concentration, a student is required to fulfill certain course requirements.

### Required Courses

GEOS 3023	Introduction to Cartography (Fa)	3
GEOS 4413	Principles of Remote Sensing (Fa)	3
GEOS/ANTH 3543	Geospatial Applications and Information Science (Sp, Fa)	3

### Elective Courses

Select three of the following:		9
GEOS 4523	Cartographic Design and Production (Sp)	
GEOS 5423	Remote Sensing of Natural Resources (Even years, Sp)	
GEOS/ANTH 4553	Introduction to Raster GIS (Fa)	
GEOS/ANTH 4583	Vector GIS (Sp)	
GEOS/ANTH 4593	Introduction to Global Positioning Systems and Global Navigation Satellite Systems (Fa)	
STAT 4003	Statistical Methods (Sp, Fa) (or other approved statistics course)	
CVEG 2053	Surveying Systems (Sp, Fa) (or other approved surveying course)	
<hr/>		
Total Hours		18

**Writing Requirement:** The college writing requirement is to be met by completion of a term paper deemed satisfactory by the student's adviser and instructor of an upper-level geoscience course. The college writing requirement may also be met by the completion of an honors thesis.

**Requirements for a Minor in Geography:** 15 hours in geography to include GEOS 1123. At least 6 hours must be numbered 3000 or above and must include one regional and one topical course.

**Requirements for a Minor in Historic Preservation:** 18 hours from:

ARCH 1003	Basic Course in the Arts: Architecture Lecture (Sp, 3-4 Fa) (or equivalent class in architecture)	
or ARCH 1212 & ARCH 1222	Design Thinking I: Foundations in Technology (Su, Fa) and Design Thinking II: Foundations in History (Sp, Su)	
GEOS 4073	Urban Geography (Sp)	3
or LARC 3413	History of Landscape Architecture I (Fa)	
ANTH 4443	Cultural Resource Management I (Sp) (or equivalent class in cultural resources)	3
GEOS 1133	Earth Science (ACTS Equivalency = GEOL 1124 Lecture) (Sp, Fa)	3
GEOS 3023	Introduction to Cartography (Fa) (or equivalent class in spatial representation and visualization)	3
GEOS 3033	Building Materials Field Studies (Irregular)	3
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Total Hours		18

GEOS 3033 Building Materials Field Studies (Irregular) is the required field capstone course that will require two weekends (Saturday and Sunday) for completion. The course has been specifically designed for this program and will discuss the nature of building materials (wood, brick, mortar and stone), their identification and properties, weathering and erosion theory, assessment and mitigation (i.e. cleaning, consolidants, innovative trends). It is suggested that this class be taken last in the program series.

One semester participation in the University of Arkansas' Rome Program will substitute for six (6) credits from class requirements in Architectural History and Urban Studies listed above. A supplemental program internship is suggested in addition to the classes required if the student's career path is in Historic Preservation.

**Requirements for Departmental Honors in Geography:** Admission to the Departmental Honors Program in Geography is open to geography majors with a minimum grade-point average of 3.5 in all their work. All honors candidates must take 12 hours, which may include 6 hours of thesis, in Honors Studies. During the fall semester of either the junior or senior year the candidate will enroll in GEOS 399VH (no more than three hours of credit), an undergraduate seminar in geographical philosophy and methodology. During the senior year the honors candidate will complete the program by writing a senior honors paper under GEOS 399VH (no more than three hours of credit). Successful completion of the requirements will be recognized by the award of the distinction "Geography Scholar *Cum Laude*" at graduation. Higher degree distinctions are recommended only in truly exceptional cases and are based upon the whole of the candidate's program of honors studies.

## Geology (GEOL)

The Department of Geosciences offers the Bachelor of Science degree in geology and the Bachelor of Science degree in earth science (<http://catalog.uark.edu/undergraduatecatalog/collegesandschools/jwilliamfulbrightcollegeofartsandsciences/earthsciences>). It is emphasized that students wishing to become practicing professional geologists should hold the Bachelor of Science degree in geology at a minimum. It is further recognized that practicing professional geologists typically hold a Master of Science degree. The education of students pursuing the Bachelor of Science in earth science degree should reflect general education in the liberal arts with emphasis in geology.

The goal of the program leading to the Bachelor of Science degree in geology is to provide students with a broad spectrum of the various



subdisciplines of geology, while at the same time honoring an emphasis in the traditional areas of mineralogy, igneous, metamorphic and sedimentary petrology, structural geology and stratigraphic principles. This curriculum will prepare students to enter graduate programs without deficiencies at the University of Arkansas or other established programs.

Along with the normal degree program, the department offers a B.S. in geology with a concentration in geophysics.

For requirements for the M.S. degree in geology, see the *Graduate School Catalog*.

**Requirements for a Major in Geology leading to the B.S. Degree:** In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the University Core requirements.

CHEM 1103 & CHEM 1101L	University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) and University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)	4
CHEM 1123 & CHEM 1121L	University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) and University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)	4
Select one of the following:		8
PHYS 2013 & PHYS 2033 & PHYS 2031L	College Physics I (ACTS Equivalency = PHYS 2014 Lecture) (Su, Fa) and College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab) (Su, Fa) and College Physics II (ACTS Equivalency = PHYS 2024 Lecture) (Sp, Su) and College Physics II Laboratory (ACTS Equivalency = PHYS 2024 Lab) (Su)	
or		
PHYS 2054 & PHYS 2074	University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa) and University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa)	
MATH 2554	Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	4
MATH 2564	Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa)	4
Six hours in a single world language at the 1013 Elementary II level or higher. <sup>1</sup>		6
Three hours of upper-level science as approved by adviser		3
A minimum of 40 semester hours of GEOS courses to include:		
GEOS 1113 & GEOS 1111L	General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa) and General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa) or GEOS 3052 Geology for Engineers (Fa)	2-4
GEOS 1133 & GEOS 1131L	Earth Science (ACTS Equivalency = GEOL 1124 Lecture) (Sp, Fa) and Earth Science Laboratory (ACTS Equivalency = GEOL 1124 Lab) (Sp, Fa)	4
GEOS 2313	Mineralogy and Petrology (Fa)	3
GEOS 3383	Principles of Landscape Evolution (Fa)	3
GEOS 3413	Sedimentary Rocks & Fossils (Sp)	3

GEOS 3514	Structural Geology (Sp)	4
GEOS 4063	Principles of Geochemistry (Fa) or GEOS 4433 Geophysics (Irregular)	3
GEOS 4223	Stratigraphy and Sedimentation (Fa)	3
GEOS 4686	Geology Field Camp (Su)	6
GEOS 4873	Geological Data Analysis (Sp)	3
GEOS 4924	Earth System History (ACTS Equivalency = PHSC 1104) (Sp)	4
And an additional 9 hours of geology courses selected from GEOS courses numbered 3000 or higher.		9
Total Hours		80-82

<sup>1</sup> World language courses taken are dependent on placement level in sequence.

**Writing Requirement:** A scholarly writing assignment will be included in all geoscience courses numbered 2000 and above. Those papers submitted in geoscience courses 3000 and above will fulfill the Fulbright College writing requirement. The college writing requirement may also be met by the completion of an honors thesis.

## Geology B.S. Nine-Semester Degree Program

Students wishing to follow the nine-semester degree plan should see the University Core requirements (p. 81). Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

This program does require a summer field camp after the junior year.

First Year	Units		
	Fall	Spring	Summer
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3		
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) <sup>1</sup>	4		
GEOS 1113 General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa) & GEOS 1111L General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa) or GEOS 3052 Geology for Engineers (Fa)	4		
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) & CHEM 1101L University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)	4		
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3	
MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa) <sup>1</sup>		4	

CHEM 1123 University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa)	4	
& CHEM 1121L University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)		
GEOS 1133 Earth Science (ACTS Equivalency = GEOL 1124 Lecture) (Sp, Fa)	4	
& GEOS 1131L Earth Science Laboratory (ACTS Equivalency = GEOL 1124 Lab) (Sp, Fa)		
Year Total:	15	15

**Second Year** **Units**

	<b>Fall</b>	<b>Spring</b>	<b>Summer</b>
GEOS 2313 Mineralogy and Petrology (Fa) <sup>1</sup>	3		
Select one of the following:	4		
PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa)			
PHYS 2013 College Physics I (ACTS Equivalency = PHYS 2014 Lecture) (Su, Fa)			
& PHYS 2011L College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab) (Su, Fa)			
University/State Core US History Course	3		
University/State Core Social Science Requirement	3		
1013 Elementary II world language course (or higher, depending on placement)	3		
GEOS 3413 Sedimentary Rocks & Fossils (Sp) <sup>1,2</sup>		3	
Select one of the following:		4	
PHYS 2074 University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa)			
PHYS 2033 College Physics II (ACTS Equivalency = PHYS 2024 Lecture) (Sp, Su)			
& PHYS 2031L College Physics II Laboratory (ACTS Equivalency = PHYS 2024 Lab) (Su)			
University/State Core Fine Arts or Humanities requirement		3	
University/State Core Social Science requirement		3	
2003 Intermediate I world language course (or higher level)		3	
Year Total:	16	16	

<b>Third Year</b>	<b>Fall</b>	<b>Spring</b>	<b>Summer</b>
GEOS 3383 Principles of Landscape Evolution (Fa) <sup>1,2</sup>	3		
University/State Core Humanities or Fine Arts requirement (as needed)	3		
University/State Core Social Science requirement	3		
General Elective	6		
GEOS 3514 Structural Geology (Sp) <sup>1,2</sup>			4
GEOS 4223 Stratigraphy and Sedimentation (Fa) <sup>1,2</sup>			3
GEOS 4873 Geological Data Analysis (Sp) <sup>1,2</sup>			3
General Electives		3	
GEOS 4686 Geology Field Camp (Su)			6
Year Total:	15	13	6

**Fourth Year** **Units**

	<b>Fall</b>	<b>Spring</b>	<b>Summer</b>
GEOS 4063 Principles of Geochemistry (Fa) <sup>1,2</sup>	3		
or GEOS 4433 Geophysics (Irregular)			
GEOS electives numbered 3000 or above <sup>1,2</sup>	6		
General Elective	3		
GEOS 4924 Earth System History (ACTS Equivalency = PHSC 1104) (Sp) <sup>1,2</sup>		4	
GEOS electives numbered 3000 or above <sup>1,2</sup>		6	
General Electives (students who completed GEOS 1113/GEOS 1111L will need to complete only 2 hours of general electives; students who completed GEOS 3052 will need to complete 4 hours)		2	
Year Total:	12	12	

Total Units in Sequence: 120

- <sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations (p. 183).
- <sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations (p. 183).

**Requirements for a Major in Geology with a concentration in geophysics leading to a B.S. degree:** Completion of these requirements will result in a double major in both geology and physics. In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following course requirements must be met.

CHEM 1103	University Chemistry I (ACTS Equivalency =	4
& CHEM 1101L	CHEM 1414 Lecture) (Su, Fa) and University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)	

CHEM 1123 & CHEM 1121L	University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) and University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)	4
PHYS 2054	University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa)	4
PHYS 2074	University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa)	4
PHYS 2094	University Physics III (Fa)	4
MATH 2554	Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	4
MATH 2564	Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa)	4
MATH 2574	Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa)	4
MATH 2584	Elementary Differential Equations (Sp, Su, Fa)	4
A minimum of 45 semester hours of GEOS and PHYS courses to include:		
GEOS 1113 & GEOS 1111L	General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa) and General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)	2-4
or GEOS 3052 Geology for Engineers (Fa)		
GEOS 2313	Mineralogy and Petrology (Fa)	3
GEOS 3383	Principles of Landscape Evolution (Fa)	3
GEOS 3413	Sedimentary Rocks & Fossils (Sp)	3
GEOS 3514	Structural Geology (Sp)	4
GEOS 4223	Stratigraphy and Sedimentation (Fa)	3
GEOS 4433	Geophysics (Irregular)	3
GEOS 4924	Earth System History (ACTS Equivalency = PHSC 1104) (Sp)	4
GEOS 4686	Geology Field Camp (Su)	6
PHYS 3113	Analytical Mechanics (Fa)	3
PHYS 3414	Electromagnetic Theory (Sp)	4
PHYS 3613	Modern Physics (Sp, Su, Fa)	3
PHYS 4073	Introduction to Quantum Mechanics (Fa)	3
PHYS 4991	Physics Senior Seminar (Sp, Su, Fa)	1
Total Hours		81-83

**Writing Requirement:** A scholarly writing assignment will be included in all geoscience courses numbered 2000 and above. Those papers submitted in geoscience courses 3000 and above will fulfill the Fulbright College writing requirement. The college writing requirement may also be met by the completion of an honors thesis.

## Geology B.S. with Geophysics Concentration Nine-Semester Degree Program

Students wishing to follow the nine-semester degree plan should see the University Core requirements (p. 81). Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

First Year	Units		
	Fall	Spring	Summer
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3		

MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) <sup>1</sup>	4		
PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa) <sup>1</sup>	4		
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) & CHEM 1101L University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)	4		
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3	
PHYS 2074 University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa) <sup>1</sup>		4	
MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa) <sup>1</sup>		4	
GEOS 1113 General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa) & GEOS 1111L General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)		4	
Year Total:	15		15

Second Year	Units		
	Fall	Spring	Summer
PHYS 2094 University Physics III (Fa) <sup>1</sup>	4		
MATH 2584 Elementary Differential Equations (Sp, Su, Fa) <sup>1</sup>	4		
CHEM 1123 University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) & CHEM 1121L University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)	4		
GEOS 2313 Mineralogy and Petrology (Fa)	3		
PHYS 3613 Modern Physics (Sp, Su, Fa) <sup>1,2</sup>		3	
MATH 2574 Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa) <sup>1</sup>		4	
GEOS 3413 Sedimentary Rocks & Fossils (Sp) <sup>1,2</sup>		3	
University Core Social Science Requirement		3	
General Elective			1
Year Total:	15		14

Third Year	Units		
	Fall	Spring	Summer
PHYS 3113 Analytical Mechanics (Fa) <sup>1,2</sup>	3		

GEOS 4223 Stratigraphy and Sedimentation (Fa) <sup>1, 2</sup>	3		
GEOS 3383 Principles of Landscape Evolution (Fa) <sup>1, 2</sup>	3		
University Core History Requirement	3		
University Core Social Science Requirement	3		
GEOS 3514 Structural Geology (Sp) <sup>1, 2</sup>	4		
University Core Social Science Requirement	3		
General Electives	6		
GEOS 4686 Geology Field Camp (Su)		6	
Year Total:	15	13	6

Fourth Year	Units		
	Fall	Spring	Summer
PHYS 4073 Introduction to Quantum Mechanics (Fa) <sup>1, 2</sup>	3		
GEOS 4433 Geophysics (Irregular) <sup>1, 2</sup>	3		
University Core Humanities or Fine Arts Requirement (as needed)	3		
Electives	3		
PHYS 3414 Electromagnetic Theory (Sp) <sup>1, 2</sup>		4	
PHYS 4991 Physics Senior Seminar (Sp, Su, Fa) <sup>1, 2</sup>		1	
GEOS 4924 Earth System History (ACTS Equivalency = PHSC 1104) (Sp) <sup>1, 2</sup>		4	
University Core Fine Arts or Humanities Requirement (as needed)		3	
General Electives		3	
Year Total:	12	15	

Total Units in Sequence: 120

<sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations (p. 183).  
<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations (p. 183).

**Requirements for a Minor in Geology:** A minor in geology shall be awarded upon completion of the following course work:

GEOS 1113 & GEOS 1111L	General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa) and General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa) or GEOS 3052 Geology for Engineers (Fa)	2-4
GEOS 1133 & GEOS 1131L	Earth Science (ACTS Equivalency = GEOL 1124 Lecture) (Sp, Fa) and Earth Science Laboratory (ACTS Equivalency = GEOL 1124 Lab) (Sp, Fa)	4
GEOS 2313	Mineralogy and Petrology (Fa)	3
Two GEOS Courses at the 3000-level		6

One GEOS Course at the 4000-level	3
Total Hours	18-20

Students are advised to consult with a geology faculty member to develop the course work program that best complements their major area of study.

**Requirements for Departmental Honors in Geology:** The Departmental Honors Program in Geology provides upper-division undergraduate students with an opportunity to formally participate in geologic research activities. Honors candidates carry out independent study and research under the guidance of the geology faculty. Outstanding student achievement will be recognized by awarding the distinction "Geology Scholar *Cum Laude*" at graduation. Higher degree distinctions may be awarded to truly outstanding students based upon the whole of their academic program and quality of honors research.

Honors candidates in geology must do the following:

1. Satisfy departmental and college requirements for a bachelor's degree with honors,
2. Become a candidate no later than the second semester of their junior year,
3. Enroll in six hours of honors research GEOS 3901, GEOS 3911, GEOS 4972H, GEOS 4982H,
4. Take 12 hours in Honors Studies, which may include 6 hours of thesis,
5. Complete junior and senior honors courses GEOS 3901, GEOS 3911, GEOS 4972H, GEOS 4982H, and
6. Achieve a cumulative grade-point average of 3.30 in geology courses.

**Geology (B.S.) Teacher Licensure in Life/Earth Science or Physical/Earth Science Requirements:** Students wanting to teach science in middle or secondary school should consult with an adviser in the College of Education and Health Professions.

## Geosciences (GEOS) Faculty

- Spencer L. Allen, Lecturer
- Mohamed H. Aly, Assistant Professor
- Paula Anderson, Instructor
- Steve K. Boss, Professor
- Jackson David Cothren, Associate Professor
- Matthew D. Covington, Assistant Professor
- Fiona M. Davidson, Associate Professor
- Ralph K. Davis, Professor
- John C. Dixon, Professor
- Gregory Dumond, Assistant Professor
- Song Feng, Assistant Professor
- Margaret J. Guccione, Professor
- Phil Hays, Associate Professor
- John G. Hehr, Professor
- Rashauna Mickens Hintz, Instructor
- Rashauna Mickens Hintz, Instructor
- Edward C. Holland, Assistant Professor
- Peng Li, Clinical Assistant Professor
- Fred Limp Jr., University Professor
- Christopher L. Liner, Professor
- Steven Edward Milligan, Instructor
- Thomas R. Paradise, University Professor
- Jason A. Patton, Adjunct Assistant Professor
- Adriana Potra, Assistant Professor

**Ray A. Quick**, Adjunct Assistant Professor  
**John B. Shaw**, Assistant Professor  
**Xuan Shi**, Assistant Professor  
**David William Stahle**, Distinguished Professor  
**Celina A. Suarez**, Assistant Professor  
**Jason A. Tullis**, Associate Professor  
**Henry L. Turner III**, Instructor

Christopher L. Liner  
 Chair of the Department  
 216 Gearhart Hall  
 479-575-3355

[fulbright.uark.edu/departments/geosciences](http://fulbright.uark.edu/departments/geosciences)

The Department of Geosciences offers three majors, two leading to a Bachelor of Science and one leading to a Bachelor of Arts:

- Earth Science (p. 238), B.S.
- Geography (p. 252), B.A.
- Geology (p. 254), B.S.

The department also offers coursework leading to a Geospatial Technologies Certificate.

- Certificate in Geospatial Technologies, the requirements of which are in the tab at right.

## Requirements for Geospatial Technologies Certificate

The Department of Geosciences also offers an online Geospatial Technologies Certificate through the University of Arkansas Global Campus (<http://globalcampus.uark.edu>). The certificate is designed for working professionals who wish to develop basic skills in the emerging field of geospatial technologies. Instruction prepares these individuals for employment in the geosciences and collateral disciplines as well as providing a foundational skill set for additional advanced work if desired. The certificate will also benefit students in two-year associate degree programs as well as undergraduates in four-year programs who wish to strengthen their skills.

**Requirements for admission:** Candidates should possess an associate's degree, two years of college, or equivalent work experience.

Requirements for a Geospatial Technologies Certificate: A total of 12-18 hours are required for the certificate.<sup>1</sup> Students must complete:

GEOS 3013	Foundations of Geospatial Data Analysis (Sp, Fa)	3
GEOS 3103	Geospatial Technologies Computational Toolkit (Sp, Fa)	3
GEOS 3543	Geospatial Applications and Information Science (Sp, Fa)	3
GEOS 3553	Spatial Analysis Using ArcGIS (Sp, Fa)	3
GEOS 3563	Geospatial Data Mining (Sp, Fa)	3
GEOS 3593	Introduction to Geodatabases (Sp, Fa)	3

<sup>1</sup> It is possible to waive 3 to 6 hours of required coursework for GEOS 3013 and GEOS 3103 through successful completion of proficiency exams.

## History (HIST) Faculty

**Nikolay Atanasov Antov**, Associate Professor  
**Shawn Austin**, Assistant Professor  
**Caree A. Banton**, Assistant Professor  
**Alessandro Brogi**, Professor  
**Robert P. Brubaker**, Instructor  
**Todd Cleveland**, Assistant Professor  
**Lynda L. Coon**, Professor  
**Freddy C. Domínguez**, Assistant Professor  
**Justin Gage**, Instructor  
**Jim Gigantino II**, Associate Professor  
**Rocio Gomez**, Assistant Professor  
**Joel Samuel Gordon**, Professor  
**Ronald J. Gordon**, Instructor  
**Kelly Hammond**, Assistant Professor  
**Laurence Hare Jr.**, Associate Professor  
**Rodney Harris**, Instructor  
**Brian Christopher Hurley**, Instructor  
**Elizabeth Jane Markham**, Professor  
**Charles E. Muntz**, Assistant Professor  
**Lauren Pepitone**, Assistant Professor  
**Michael C. Pierce**, Associate Professor  
**Benjamin Purvis**, Instructor  
**Charles F. Robinson II**, Professor  
**Sarah Rodriguez**, Assistant Professor  
**Steven Rosales**, Assistant Professor  
**David Schieffler**, Instructor  
**Kathryn Ann Sloan**, Professor  
**Richard D. Sonn**, Professor  
**Trish Starks**, Associate Professor  
**Daniel E. Sutherland**, Distinguished Professor  
**Elliott West**, Alumni Distinguished Professor  
**Jeannie Whayne**, University Professor  
**Calvin White Jr.**, Associate Professor  
**Patrick George Williams**, Professor  
**Rembrandt Wolpert**, Professor  
**Randall B. Woods**, Distinguished Professor, John A. Cooper Sr. Distinguished Professor of Diplomacy

Calvin White Jr.  
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 416 Old Main  
 479-575-3001  
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History Department website (<http://fulbright.uark.edu/departments/history>)

The Department of History offers an undergraduate major leading to a Bachelor of Arts in history as well as a minor in history.

The Department of History offers specialized study of world societies and their evolution to the present. Students may concentrate on areas such as Africa, the Middle East, Latin America, Asia, Europe, or the history of the United States. Undergraduate majors and minors prepare students for careers in government service, law, publishing, teaching, business school, diplomacy, journalism, archival management, communications, or graduate studies.

The Department of History also offers a highly competitive graduate program. Graduate faculty members direct both seminars and specialized training leading to the Master of Arts and Doctor of Philosophy degrees.

The Department of History also offers junior and senior history majors an opportunity to secure valuable experience working in the field of history. Previous interns have worked for the Washington County Historical Society and the Arkansas Historical Association.

For requirements for advanced degrees in history, see the Graduate School Catalog (<http://catalog.uark.edu/graduatecatalog/programsofstudy/historyhist>).

For information regarding departmental scholarships, visit the History Department's scholarships page (<http://fulbright.uark.edu/departments/history/undergraduate/scholarships.php>).

## Requirements for a Major in History

Minimum of 45 semester hours to include:

Any World Language at the Intermediate II 2013 level. <sup>1</sup>	3-9
3 hours from the following list of introductory courses in area studies programs:	3
AAST 1003 Introduction to African and African American Studies (Sp, Fa)	
CLST 1003 Introduction to Classical Studies: Greece (Odd years, Fa)	
CLST 1013 Introduction to Classical Studies: Rome (Even years, Sp)	
EUST 2013 Introduction to Europe (Fa)	
GNST 2003 Introduction to Gender Studies (Sp, Fa)	
JWST 2003 Introduction to Judaism (Odd years, Fa)	
LAST 2013 Latin American Studies (Irregular)	
PLSC 2813 Introduction to International Relations (Sp, Fa)	
MEST 2013 Introduction to Middle East Studies (Fa)	
HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)	3
or HIST 1113H Honors Institutions and Ideas of World Civilizations I (Irregular)	
HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa) <sup>2</sup>	3
or HIST 1123H Honors Institutions and Ideas of World Civilizations II (Irregular)	
HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)	3
HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)	3
HIST 4893 Senior Capstone Seminar (Sp, Fa)	3
24 additional hours in history courses numbered 3000 or above. At least 12 of these hours must be numbered 4000 or above. <sup>3</sup>	24
<b>Total Hours</b>	<b>45-51</b>

<sup>1</sup> This is usually accomplished through completion of a sequence of three language courses: 1013, 2003 and 2013.

<sup>2</sup> 4-year honors students must take HIST 1113H, HIST 1123H, HIST 3973H and at least 3 hours of HIST 399VH. Four-year honors students may not apply more than 6 hours of HIST 399VH to the history major.

<sup>3</sup> Students may not receive credit for both HIST 3383 and HIST 4583.

Students must select 3 hours from each of the following groups:

### Group 1: Europe, including Britain and Russia

HIST 3003 History of Christianity (Irregular)	3
HIST 3013 Ancient Historians (Fa)	3
HIST 3063 Military History (Irregular)	3
HIST 3083 Women and Christianity (Irregular)	3
HIST 3423 British History, 1688-Present (Irregular)	3
HIST 3433 Twentieth Century Britain through Film (Irregular)	3
HIST 3443 Modern Imperialism (Odd years, Fa)	3
HIST 3453 Modern Terrorism (Irregular)	3
HIST 3533 World War II (Sp)	3
HIST 3543 Russia to 1861 (Fa)	3
HIST 3553 Russia Since 1861 (Sp)	3
HIST 3573 World War I (Even years, Fa)	3
HIST 3683 Europe in the 19th Century (Irregular)	3
HIST 3693 Europe in the 20th Century (Irregular)	3
HIST 3833 Special Topics in European History (Irregular)	3
HIST 4003 Democratic Athens (Irregular)	3
HIST 4013 Alexander the Great and the Hellenistic World (Irregular)	3
HIST 4023 Roman Republic (Irregular)	3
HIST 4033 Roman Empire (Irregular)	3
HIST 4043 Late Antiquity and the Early Middle Ages (Even years, Fa)	3
HIST 4053 Late Middle Ages (Odd years, Sp)	3
HIST 4443 Frontiers and Borderlands in Colonial Latin America (Irregular)	3
HIST 4073 Renaissance and Reformation, 1300-1600 (Even years, Fa)	3
HIST 4083 Early Modern Europe, 1600-1800 (Odd years, Sp)	3
HIST 4103 Byzantine Empire (Irregular)	3
HIST 4113 Archaic Greece (Irregular)	3
HIST 4133 Society and Gender in Modern Europe (Odd years, Sp)	3
HIST 4143 Intellectual History of Europe Since the Enlightenment (Even years, Fa)	3
HIST 4153 Modern Ireland, 1798-1948 (Irregular)	3
HIST 4163 Tudor-Stuart England, 1485-1714 (Even years, Sp)	3
HIST 4183 Great Britain, 1707-1901 (Even years, Fa)	3
HIST 4193 Great Britain, 1901-2001 (Odd years, Sp)	3
HIST 4213 The Era of the French Revolution (Odd years, Fa)	3
HIST 4223 France Since 1815 (Even years, Sp)	3
HIST 4233 The Atlantic World, 1400-1850 (Irregular)	3
HIST 4243 Germany, 1789-1918 (Irregular)	3
HIST 4253 Germany, 1918-1945 (Irregular)	3
HIST 4273 Comparative Slavery (Irregular)	3
HIST 4303 Transatlantic Relations, 1919-Present (Irregular)	3
HIST 4323 Wars of Religion: From the Crusades to 9/11 (Irregular)	3
HIST 4343 Golden Age Portugal and Spain (Irregular)	3
HIST 4793 Colonial India, 1758-1948 (Irregular)	3
HIST 4803 Modern Scandinavia (Irregular)	3
HIST 4823 Black Freedom in the Age of Emancipation (Sp)	3
HIST 4873 Germany since 1945 (Irregular)	3
HIST 4883 Health and Disease: 1500 to the Present (Irregular)	3

**Group 2: Africa, Asia, Caribbean, Latin America, Middle East, Near East, Russia**

HIST 3033	Islamic Civilization (Irregular)	3
HIST 3043	History of the Modern Middle East (Irregular)	3
HIST 3073	Women and Gender in Modern Latin American History (Irregular)	3
HIST 3133	History of Sports in Africa (Irregular)	3
HIST 3183	Popular Culture in the Caribbean (Irregular)	3
HIST 3193	The Making of the Modern Caribbean (Fa)	3
HIST 3203	Colonial Latin America (Odd years, Fa)	3
HIST 3213	Modern Latin America (Even years, Sp)	3
HIST 3253	The History of Sub-Saharan Africa (Fa)	3
HIST 3283	U.S. Latinos and Latinas through Film (Sp)	3
HIST 3313	Latinos and Latinas in the U.S. (Fa)	3
HIST 3453	Modern Terrorism (Irregular)	3
HIST 3473	Palestine and Israel in Modern Times (Irregular)	3
HIST 3513	History of China to 1644 (Fa)	3
HIST 3523	Modern China (Sp)	3
HIST 3543	Russia to 1861 (Fa)	3
HIST 3553	Russia Since 1861 (Sp)	3
HIST 3813	Special Topics in African History (Irregular)	3
HIST 3823	Special Topics in Asian History (Irregular)	3
HIST 3843	Special Topics in Latin American and Caribbean History (Irregular)	3
HIST 3853	Special Topics in Middle East History (Irregular)	3
HIST 4123	Africa and the Trans-Atlantic Slave Trade (Irregular)	3
HIST 4173	The Latin American City (Irregular)	3
HIST 4233	The Atlantic World, 1400-1850 (Irregular)	3
HIST 4263	Independence and Africa Today (Sp)	3
HIST 4273	Comparative Slavery (Irregular)	3
HIST 4313	Islamic Theology and Philosophy, 650-1700 (Irregular)	3
HIST 4333	Modern Islamic Thought (Irregular)	3
HIST 4353	Middle East, 600-1250 (Even years, Fa)	3
HIST 4363	The Middle East since 1914 (Irregular)	3
HIST 4373	Mongol & Mamluk Middle East 1250-1520 (Even years, Sp)	3
HIST 4393	Early Modern Islamic Empires, 1300-1750 (Odd years, Sp)	3
HIST 4403	Islam in Asia (Irregular)	3
HIST 4413	New Women in the Middle East (Irregular)	3
HIST 4433	Social and Cultural History of the Modern Middle East (Irregular)	3
HIST 4443	Frontiers and Borderlands in Colonial Latin America (Irregular)	3
HIST 4533	China's Foreign Trade and International Order: History, Policy, and Theory (Irregular)	3
HIST 4553	The Recluse in Early East Asia (Even years, Fa)	3
HIST 4633	Heian Japan (794-1192) (Irregular)	3
HIST 4633H	Honors Heian Japan (794-1192) (Irregular)	3
HIST 4743	The Cold War in Latin America: Revolutions, Violence, and Politics (Irregular)	3
HIST 4783	History of Modern Mexico (Odd years, Sp)	3

HIST 4793	Colonial India, 1758-1948 (Irregular)	3
HIST 4813	Africans and Slavery in Colonial Latin America (Irregular)	3
HIST 4823	Black Freedom in the Age of Emancipation (Sp)	3
HIST 4853	Early Chinese Empires: Mythology, Archeology, and Historiography (Sp)	3
HIST 4863	Classical Thought in East Asia (Fa)	3
HIST 4883	Health and Disease: 1500 to the Present (Irregular)	3
HIST 4903	Music and the Arts of Edo Japan 1600-1868 (Irregular)	3
HIST 4913	Reading Japanese Noh as Cultural History (Irregular)	3
HIST 4923	Song China 960-1279 (Irregular)	3
HIST 4933	Ad Paradisum: Utopias, imaginary places, and the afterlife in East Asia (Irregular)	3
HIST 4963	Third World Underdevelopment and Modernization (Irregular)	3

**Group 3: United States**

HIST 3063	Military History (Irregular)	3
HIST 3093	Women in U.S. History (Irregular)	3
HIST 3233	African American History to 1877 (Sp, Fa)	3
HIST 3243	African American History Since 1877 (Sp, Fa)	3
HIST 3263	History of the American Indian (Fa)	3
HIST 3273	Agricultural and Rural History of the United States (Irregular)	3
HIST 3283	U.S. Latinos and Latinas through Film (Sp)	3
HIST 3293	History of Popular Culture (Irregular)	3
HIST 3303	U.S. Immigration History (Sp)	3
HIST 3313	Latinos and Latinas in the U.S. (Fa)	3
HIST 3323	The West of the Imagination (Irregular)	3
HIST 3383	Arkansas and the Southwest (Sp, Fa)	3
HIST 3453	Modern Terrorism (Irregular)	3
HIST 3573	World War I (Even years, Fa)	3
HIST 3583	The United States and Vietnam, 1945-1975 (Fa)	3
HIST 3593	The 1960s: A World Transformed (Odd years, Sp)	3
HIST 3603	Colonial and Revolutionary America, 1600-1789 (Irregular)	3
HIST 3613	Early National and Antebellum America, 1789-1850 (Irregular)	3
HIST 3863	Special Topics in U.S. History (Irregular)	3
HIST 4093	The History of African Americans and Social Justice (Irregular)	3
HIST 4233	The Atlantic World, 1400-1850 (Irregular)	3
HIST 4273	Comparative Slavery (Irregular)	3
HIST 4303	Transatlantic Relations, 1919-Present (Irregular)	3
HIST 4383	The American Civil Rights Movement (Irregular)	3
HIST 4463	The American Frontier (Odd years, Fa)	3
HIST 4473	Environmental History (Irregular)	3
HIST 4483	African American Biographies (Irregular)	3
HIST 4493	Religion in America to 1860 (Irregular)	3
HIST 4503	History of Political Parties in the United States, 1789-1896 (Even years, Fa)	3
HIST 4513	History of Political Parties in the United States Since 1896 (Odd years, Sp)	3

HIST 4543	American Social and Intellectual History Since 1865 (Odd years, Sp)	3
HIST 4563	The Old South, 1607-1865 (Odd years, Fa)	3
HIST 4573	The New South, 1860 to the Present (Even years, Fa)	3
HIST 4583	Arkansas in the Nation (Sp)	3
HIST 4593	The Colonial French in the Mississippi Valley (Sp)	3
HIST 4603	U.S. Labor History to 1877 (Odd years, Fa)	3
HIST 4613	Colonial America 1600-1763 (Irregular)	3
HIST 4623	Revolutionary America, 1763 to 1789 (Irregular)	3
HIST 4643	Early American Republic, 1789-1828 (Irregular)	3
HIST 4653	Antebellum America, 1828-1850 (Irregular)	3
HIST 4663	Rebellion to Reconstruction, 1850-1877 (Irregular)	3
HIST 4673	The American Civil War (Fa)	3
HIST 4703	Emergence of Modern America, 1876-1917 (Odd years, Fa)	3
HIST 4723	America Between the Wars, 1917-1941 (Irregular)	3
HIST 4733	Recent America, 1941 to the Present (Irregular)	3
HIST 4753	Diplomatic History of the United States, 1776-1900 (Even years, Fa)	3
HIST 4763	Diplomatic History of the United States, 1900-1945 (Odd years, Sp)	3
HIST 4773	Diplomatic History of the US, 1945 to Present (Odd years, Fa)	3
HIST 4823	Black Freedom in the Age of Emancipation (Sp)	3
HIST 4943	U.S. Labor History, from 1877-present (Even years, Sp)	3

Courses listed in more than one group may fill only one group requirement. In consultation with an adviser, students who are history majors are encouraged to design a program of study with both breadth and depth.

History majors are strongly encouraged, but not required, to take a minor or combined major in one of the following:

- African and African American Studies
- American Studies
- Art History
- Asian Studies
- Classical Studies
- European Studies
- Gender Studies
- International Studies
- Jewish Studies
- Latin American and Latino Studies
- Medieval and Renaissance Studies
- Middle East Studies
- Religious Studies
- World Languages, Literatures, and Culture

**Writing Requirement:** To fulfill the Fulbright College writing requirement, each history major will submit, prior to graduation, a substantial research or analytical paper, with a grade of "A" or "B" from an upper-division history course (3000, 4000, 5000 level) to his or her departmental adviser. The required senior capstone seminar, HIST 4893, is designed to give history majors the opportunity and guidance to produce a paper to meet

the Fulbright College requirement, but students may also submit a paper from another course. Satisfactory completion of a thesis may also fulfill this requirement.

## History B.A. Eight-Semester Degree Program

Students who elect to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program. State/University Core and world language requirement hours may vary by individual, based on placement and previous credit granted. Once all state/university core requirements and the world language 2013 requirement are met, students may substitute a three hour (or more) general elective in place of a core or world language area.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (depending on placement; higher-level math, recommended) or MATH 2033 Mathematical Thought (Sp, Su, Fa)	3	
HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)		3
1013 Elementary II world language course (depending on placement in sequence)	3	
Non-HIST Social sciences state/university core course	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)		3
Fine Arts, Humanities state/university core course		3
2003 Intermediate I world language course (depending on placement and sequence)		3
Science state/university core lecture and corequisite lab		4
Year Total:	15	16

Second Year	Units	
	Fall	Spring
HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)	3	
Introduction to Area Studies Course	3	
AAST 1003 Introduction to African and African American Studies (Sp, Fa)		
CLST 1003 Introduction to Classical Studies: Greece (Odd years, Fa)		
CLST 1013 Introduction to Classical Studies: Rome (Even years, Sp)		
EUST 2013 Introduction to Europe (Fa)		
GNST 2003 Introduction to Gender Studies (Sp, Fa)		
LAST 2013 Latin American Studies (Irregular)		



PLSC 2813 Introduction to International Relations (Sp, Fa)		
MEST 2013 Introduction to Middle East Studies (Fa)		
2013 Intermediate II World Language Course (depending on placement/sequence)	3	
Fine Arts, Humanities state/university core course (as needed)	3	
Science state/university core lecture and corequisite lab	4	
HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)	3	
HIST 3000 or 4000 level (from Groups 1, 2, or 3 as needed) <sup>1,2,3</sup>	3	
Area Studies course 3000 or 4000-level (recommended) or 3000+ Fulbright elective <sup>2,3</sup>	3	
Advanced Level Elective <sup>2</sup>	3	
General Elective	3	
Year Total:	16	15

Third Year	Units	
	Fall	Spring
HIST 3000 or 4000 level (from Groups 1, 2, or 3 as needed) <sup>1,2,3</sup>	6	
Advanced Level Electives <sup>2</sup>	6	
Area Studies course 3000 or 4000 level (recommended) or 3000+ Fulbright College elective <sup>2,3</sup>	3	
HIST 3000 or 4000 level (from Groups 1, 2, or 3 as needed) <sup>1,2,3</sup>	3	
HIST 4000 level (from Groups 1, 2, or 3 as needed) <sup>1,2,3</sup>	3	
Area Studies course 3000 or 4000-level (recommended) or 3000+ Fulbright elective <sup>2,3</sup>	3	
Advanced Level Electives <sup>2</sup>	3	
General Electives	3	
Year Total:	15	15

Fourth Year	Units	
	Fall	Spring
HIST 4893 Senior Capstone Seminar (Sp, Fa) <sup>1,2</sup> or HIST 4000 level (from Groups 1, 2, or 3 as needed) <sup>1,2,3</sup>	3	
HIST 4000 level (from Groups 1, 2, or 3 as needed) <sup>1,2,3</sup>	3	
Area studies course 3000 - 4000 level (recommended) or general elective	3	
Advanced Level Electives (as needed) or General Electives <sup>2</sup>	3	
General Elective	3	
HIST 4893 Senior Capstone Seminar (Sp, Fa) or HIST 4000 level (from Groups 1, 2, or 3 as needed) <sup>1,2,3</sup>	3	

HIST 4000 level (from Groups 1, 2, or 3 as needed) <sup>1,2,3</sup>	3
Area Studies course 3000-4000 level (recommended) or General Elective	3
Advanced Level Electives (if needed) or General Electives	3
General Electives (as needed)	1-3
Year Total:	15 13

Total Units in Sequence: 120

- <sup>1</sup> See the department requirements above for courses in each Group.
- <sup>2</sup> Meets 40-hour advanced credit hour requirement. See College Academic (p. 183) Regulations.
- <sup>3</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations (p. 183).

### Requirements for a Minor in History

A student must notify the department of his or her intent to minor. Requirements are 18 semester hours to include the following:

Select two of the following courses	6
HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa) or HIST 111:Honors Institutions and Ideas of World Civilizations I (Irregular) or HUMN 11 Honors Roots of Culture to 500 C.E. (Fa)	
HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa) or HIST 1123H Honors Institutions and Ideas of World Civilizations II (Irregular) or HUMN 211H Honors Birth of Modern Culture 1600-1900 (Fa)	
HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)	
HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)	

In addition, complete 12 hours of upper-level credit, at least 6 hours of which must be at the 4000-level. 12

**Requirements for Departmental Honors in History:** Both the College and the Departmental Honors Program in History provide undergraduates with an opportunity to carry out independent study and research under the guidance of history faculty and to participate in special honors classes, seminars, and colloquia. Admission to the Fulbright Honors Program is open to history majors with a minimum, cumulative grade-point average of 3.5 in all of their coursework. Honors candidates must complete a minimum of 12 hours in honors courses, including HIST 3973H and at least 3 but no more than 6 hours of HIST 399VH. College honors students majoring in history must also complete either HIST 1113H or HUMN 1114H, and either HIST 1123H or HUMN 2114H. To complete the required thesis, honors candidates should choose a faculty thesis director as early as possible but no later than the first semester of the student's junior year. Honors candidates must meet the college's requirements for an honors degree. Students graduating with honors typically graduate with the distinction *cum laude*. Higher distinctions (*magna cum laude*, *summa cum laude*) are awarded by the Honors

Council in truly exceptional case and are based upon the whole of the candidate's program of honors studies.

### History (B.A.) Social Studies Teacher Licensure Requirements:

Please refer to the Secondary Education Requirements for Fulbright College Students (p. 186).

Students who desire to teach social studies in middle school should consult with a middle-level adviser in the College of Education and Health Professions.

## Humanities (HUMN)

### Faculty

**Laurie Marie McAlister Apple**, Associate Professor  
**Julia Atilis**, Instructor  
**Mechelle Bailey**, Clinical Instructor  
**Mahendran Balasubramanian**, Assistant Professor  
**Jennifer N. Becnel**, Assistant Professor  
**Nancy Buckley**, Instructor  
**Lance M. Cherie**, Instructor  
**Eunjoo Cho**, Assistant Professor  
**Mardel Asbury Crandall**, Instructor  
**Cynthia Elkins**, Instructor  
**Serena M. Fuller**, Associate Professor  
**Mary Elizabeth Garrison**, Professor  
**Cora Hamm**, Instructor  
**Lorna Harding**, Instructor  
**Laura K. Herold**, Clinical Assistant Professor  
**Laura Hill**, Instructor  
**Stephanie K. Hubert**, Instructor  
**Timothy Scott Killian**, Associate Professor  
**Jae Kyeom Kim**, Assistant Professor  
**Shelley McNally**, Clinical Assistant Professor  
**Zola Moon**, Clinical Associate Professor  
**Jacquelyn Dee Mosley**, Associate Professor  
**Shari Coleman Moxley**, Instructor  
**Catherine O'Brien**, Instructor  
**Rana Post**, Instructor  
**Lona Robertson**, Professor  
**Lobat Siahmakoun**, Instructor  
**Kathy Smith**, Clinical Associate Professor  
**Cheryl Leigh Southward**, Associate Professor  
**La Vona Traywick**, Associate Professor  
**Sabrina P. Trudo**, Associate Professor, Twenty First Century Endowed Chair in Human Environmental Sciences  
**Yao-Chin Wang**, Assistant Professor  
**Lisa T. Washburn**, Assistant Professor  
**Kelly Ann Way**, Associate Professor  
**Amanda Williams**, Assistant Professor

David Fredrick  
 Chair of Studies  
 425 Kimpel Hall  
 479-575-6776

The Humanities Program supports the Honors Humanities Project (H2P) as well as interdisciplinary coursework in Digital Humanities, Gender Studies, Medieval and Renaissance Studies, and Arts and Aesthetics. The Humanities Program also sponsors courses in Classics, Medieval, and Renaissance cultures taught every semester and every other summer (during even years) at the Rome Study Center.

## Indigenous Studies (INDS)

Sean Teuton  
 Director of Indigenous Studies  
 479-575-6000  
 Kimpel Hall 333  
 steuton@uark.edu

The Indigenous Studies minor invites discovery of alternative world views, ecological relationships, societies, religions, arts, and governments of indigenous peoples in North America and beyond from antiquity to the present. Immersed in this inherently interdisciplinary field of study, students have the opportunity to master and employ its many theories and methodologies, debates and issues, in often comparative contexts. Such exposure and training prepares those who achieve the minor for graduate work in the humanities, business, law, and the sciences as they pertain to indigenous peoples, but also for any career that requires a supple knowledge of cultural difference between Arkansas and an increasingly global world.

### Requirements for a Minor in Indigenous Studies

Students seeking the minor in Indigenous Studies must complete three courses, one from each of three core groups: Culture, History and Literature. Students then complete two additional elective courses from the list below for a total of 15 credit hours. Other courses not listed below may serve the requirements, although only as approved by the Indigenous Studies program director. Only 6 credit hours can count toward requirements of other majors or minors.

#### Culture

ANTH 3213	Indigenous Peoples of North America: Anthropological Perspectives (Irregular)	3
ANTH 3263	Indians of Arkansas and the South (Odd years, Sp)	3
ANTH 3473	North American Prehistory (Irregular)	3
ANTH 3533	Medical Anthropology (Irregular)	3
ANTH 4143	Ecological Anthropology (Irregular)	3

#### History

HIST 3263	History of the American Indian (Fa)	3
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#### Literature

COMM 3983	Special Topics (Sp, Su, Fa)	3
ENGL 3553	Topics in Native American Literature and Culture (Irregular) <sup>1</sup>	3
ENGL 4553	Studies in Native American Literature and Culture (Irregular) <sup>1</sup>	3
WLLC 4043	The Early French in North America (Fa) <sup>2</sup>	3
WLLC 4053	The Colonial French in the Mississippi Valley (Sp) <sup>2</sup>	3

<sup>1</sup> Topics and studies include over a dozen courses.

<sup>2</sup> Courses focus on early indigenous and French encounters in the Canadian Quebec region and along the Lower Mississippi River Valley, including the Arkansas area, respectively, combining ethnohistory and literary study of accounts found in original documents. Taught in English language.

## Interdisciplinary Studies (IDST)

Robert Brady  
 Program Director  
 Kimpel Hall 417

479-575-3048  
rbrady@uark.edu

The Interdisciplinary Studies Program is targeted toward highly motivated students whose interests, needs, and talents are not reflected or met by existing majors. It is a major in which students will pursue coursework from two or more traditional disciplines in sufficient depth and breadth to prepare them for employment or graduate/professional study. The major will lead to a Bachelor of Arts in interdisciplinary studies.

There are two options for students who wish to pursue a B.A. in Interdisciplinary Studies:

- Option 1 – Construction of an Interdisciplinary Studies major consisting of at least two of three thematically linked minors from within the Fulbright College of Arts and Sciences. One of the three minors may be selected from a program in another college at the university. Students interested in Option 1 will follow the specific program requirements as specified by each minor. For Option 1, a course plan of study must contain a minimum of 45 credit hours with a maximum number of hours dependent on which group of three minors are selected (in most instances this number would range from 45-57 hours). Students selecting Option 1 must consult during their first semester of enrollment with the IDSTBA Program Director to develop their course plan of study.
- Option 2 – Construction of an Interdisciplinary Studies major consisting of a thematically linked set of coursework primarily selected from, but not limited to, courses in Fulbright College. Students selecting Option 2 must consult during their first semester of enrollment with the IDSTBA Program Director to develop an individualized course plan of study. The course plan must contain a minimum of 45 credit hours with a maximum of 21 hours of course work from a single discipline. Thirty credit hours of the proposed coursework must be at the 3000 or 4000 level. At least two-thirds of the advanced level coursework must be completed on the UA-Fayetteville campus.

In addition to the Plan of Study, students wishing to pursue the interdisciplinary studies major must also submit a narrative statement that (1) expresses how the proposed coursework (or group of minors) fit together thematically; (2) expresses why the student's interests and needs are not met by existing degree programs; and (3) expresses how the interdisciplinary studies major contributes to the student's career goals and post-graduate opportunities.

**Interdisciplinary Studies Program Requirements:** A student interested in pursuing a degree in Interdisciplinary Studies must have earned less than 75 credit hours in order to select the IDSTBA major.

Students must maintain a GPA of 2.5 or better on coursework constituting the major (e.g., Option 1 or Option 2) for continuation in the program and in order to graduate with an Interdisciplinary Studies major. Should a student's GPA in the major fall below 2.50, he or she will have one semester to bring the GPA back to an acceptable level.

Students in Option 2 of the Interdisciplinary Studies Program are strongly encouraged to include an Independent Study/Research Project as a component of the major. Students pursuing an independent study research project may add up to 6 credit hours of such activity to the 21-hour maximum in a single discipline.

In addition to the coursework defined in the student's Interdisciplinary Studies major, the student must satisfy all College and University

requirements related to the University Core (p. 81) and advanced-level courses (p. 183).

**Writing Requirement:** To complete the Fulbright College writing requirement, students must submit one of the following:

1. Complete at least one upper-division course that satisfies the College Writing Requirement in one of the disciplines contributing to the student's course plan (Option 1 or Option 2).
2. Submit to the program director a research paper that is no less than 12 pages in length, includes 10 references, and is written in an upper-division course in one of the disciplines contributing to the student's course plan (Option 1 or Option 2).

## Interdisciplinary Studies B.A. Eight-Semester Degree Plan

Students wishing to follow the eight-semester degree plan should see the Academic Regulations chapter for university requirements. University Core requirements may vary by individual, based on placement and previous credit granted. Once all University Core requirements are met, students may substitute a 3-hour (or more) general elective in place of a core area.

Students in the Interdisciplinary Studies Program develop individualized course plans. These courses are referred to in the plan below as IDST Course Plan hours.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (or higher if appropriate for IDST individual plan))	3	
Approved science core lecture requirement with corequisite lab requirement.	4	
Elementary II world language course (recommended)	3	
Fine Arts core requirement	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
Approved science core lecture with corequisite lab requirement		4
Intermediate I world language course (recommended) or other Humanities core course requirement		3
HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa) or HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa) or PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)		3
General Elective		3
Year Total:	16	16

Second Year	Units	
	Fall	Spring
Social Science core requirement	3	

IDST Course Plan	12	
Social Science core requirement		3
IDST Course Plan		11
Year Total:	15	14

Third Year	Units	
	Fall	Spring
Social Science core requirement	3	
IDST Course Plan	12	
IDST Course Plan		15
Year Total:	15	15

Fourth Year	Units	
	Fall	Spring
IDST Course Plan	15	
IDST Course Plan		14
Year Total:	15	14

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Total Units in Sequence: 120

## International Studies (INST)

J. Laurence Hare  
 Chair of Studies  
 416 Old Main  
 479-575-5890  
<http://ir.uark.edu>

The International Studies Program offers a major leading to a Bachelor of Arts degree.

The J. William Fulbright College of Arts and Sciences is strongly committed to the study of global interactions, and this program offers students a strong foundation for more advanced study as well as preparation for careers in an increasingly global economy and society. The degree offers a broad interdisciplinary course of study with a strong intercultural and international focus. Intensive language study and study abroad are especially encouraged.

**Requirements for a Major in International Studies:** In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the University/state minimum core requirements.

### A minimum of 48 credit hours to include:

#### International Studies Requirement

<b>INST 2013</b>	Introduction to International Studies (Sp)	3
<b>INST 4003</b>	International Studies Seminar (Fa)	3

#### Economics Requirement 3

<b>ECON 2143</b>	Basic Economics: Theory and Practice (Sp, Su, Fa) (Recommended)	
	or <b>ECON 20</b> Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)	
	or <b>ECON 20</b> Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)	

Note: Students are encouraged to take ECON 2143 which will satisfy the prerequisite for most upper-level ECON courses. Students who select either ECON 2013 or ECON 2023 to meet the Economics Requirement for the major will have to complete both ECON 2013 and ECON 2023 if they wish to take upper-level ECON courses.

#### World Culture Requirement 6

Choose two courses from the following:

**GEOS 2003** World Regional Geography (ACTS Equivalency = GEOG 2103) (Sp, Fa)

**HIST 1123** Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)

**PLSC 2813** Introduction to International Relations (Sp, Fa)

with no more than one course from:

**ANTH 1023** Introduction to Cultural Anthropology (ACTS Equivalency = ANTH 2013) (Sp, Su, Fa)

or **COMM 1C** Communication in a Diverse World (Sp, Fa)

or **SOCI 201** General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa)

#### Mathematics Requirement 3

Select one course from the following:

**MATH 2033** Mathematical Thought (Sp, Su, Fa)

**MATH 2043** Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)

**MATH 2053** Finite Mathematics (Sp, Su, Fa)

**MATH 2183** Mathematical Reasoning in a Quantitative World (Sp, Fa)

**STAT 2303** Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)

#### Language Requirement 6

Six credit hours of 3000-level or higher modern world language courses in one of the following languages: Arabic, Chinese, French, German, Italian, Japanese, or Spanish. (This requirement cannot be satisfied with 3 credits in one language and 3 credits in a second language.) Students may need to fulfill prerequisites in a world language at the 1003, 1013, 2003 or 2013 levels, depending on placement level in that language. Students may meet this requirement with the study of other languages with permission of the International Studies director.

#### Area Studies Requirement 9

Students must complete nine hours of courses within a single area studies focus chosen from the list below. Selected courses may not count for both the Area Studies Requirement and the Language Requirement or for both the Area Studies Requirement and the Global Studies Requirement.

##### African and African American Studies

**AAST 1003** Introduction to African and African American Studies (Sp, Fa)

Any one course numbered 3000 or higher specific to the countries, politics, cultures, people or geography of continental Africa listed under Requirement 2 or Requirement 3 of the African and African-American Studies secondary major.

Any one course numbered 4000 or higher specific to the countries, politics, cultures, people or geography of continental Africa listed under Requirement 2 or Requirement 3 of the African and African-American Studies secondary major.

##### Asian Studies

AIST 4003 Asian Studies Colloquium (Fa)

Any two courses listed in the course catalog as approved Asian Studies electives. At least one course must be numbered 3000 or higher.

#### European Studies

EUST 2013 Introduction to Europe (Fa)

EUST 4003 European Studies Colloquium (Sp)

Any one course numbered 3000 or higher listed as an approved European Studies elective.

#### Latin American and Latino Studies

LAST 4003 Latin American Studies Colloquium (Sp)

Any two courses listed in the course catalog as approved Latin American and Latino Studies electives. At least one course must be numbered 3000 or higher.

#### Middle East Studies

MEST 2013 Introduction to Middle East Studies (Fa)

MEST 4003 Middle East Studies Colloquium (Sp)

Any one course numbered 3000 or higher listed in the course catalog as an approved Middle East Studies elective.

#### Global Studies Requirement

15

Students must complete fifteen credit hours of electives drawn from any combination of the groups below. Selected courses may not count for both the Global Studies Requirement and the Area Studies Requirement. With the exception of INST courses, no more than two courses selected for the Global Studies Requirement may come from the same department.

#### Group 1: International Diplomacy, Governance, and Security

ECON 4173 Nation Model United Nations (Fa)<sup>1</sup>

GEOS 4243 Political Geography (Odd years, Fa)

HIST 3063 Military History (Irregular)

HIST 3443 Modern Imperialism (Odd years, Fa)

HIST 3453 Modern Terrorism (Irregular)

HIST 3533 World War II (Sp)

HIST 3573 World War I (Even years, Fa)

HIST 3583 The United States and Vietnam, 1945-1975 (Fa)

HIST 4303 Transatlantic Relations, 1919-Present (Irregular)

HIST 4323 Wars of Religion: From the Crusades to 9/11 (Irregular)

HIST 4753 Diplomatic History of the United States, 1776-1900 (Even years, Fa)

HIST 4763 Diplomatic History of the United States, 1900-1945 (Odd years, Sp)

HIST 4773 Diplomatic History of the US, 1945 to Present (Odd years, Fa)

PLSC 3803 International Organization (Sp)

PLSC 3823 Theories of International Relations (Sp)

PLSC 3853 American Foreign Policy (Fa)

PLSC 4513 Creating Democracies (Even years, Fa)

PLSC 4803 Foreign Policy Analysis (Irregular)

PLSC 4873 Inter-American Politics (Irregular)

#### Group 2: International Economics and Trade

ECON 3853 Emerging Markets (Fa)<sup>1</sup>

ECON 4633 International Trade (Sp, Fa)<sup>1</sup>

ECON 4643 International Macroeconomics and Finance (Sp, Fa)<sup>1</sup>

FINN 3703 International Finance (Sp, Su, Fa)

HIST 4963 Third World Underdevelopment and Modernization (Irregular)

MGMT 4583 International Management (Sp, Fa)

MKTG 4633 Global Marketing (Sp, Fa)

PLSC 4833 International Political Economy (Fa)

PLSC 4853 International Norms and Corporate Social Responsibility (Sp)

#### Group 3: World Cultures and Geographies

Any modern world language course beyond the language chosen for the international studies Language Requirement above at the Intermediate II 2013 level.

ANTH 3563 Culture and Medicine (Irregular)

ANTH 4033 Popular Culture (Irregular)

COMM 4343 Intercultural Communication (Sp)

ENGL 3763 Topics in Postcolonial Literature and Culture (Irregular)

GEOS 4073 Urban Geography (Sp)

SOCI 4603 Environmental Sociology (Sp)

HIST 3033 Islamic Civilization (Irregular)

HIST 3593 The 1960s: A World Transformed (Odd years, Sp)

HIST 4233 The Atlantic World, 1400-1850 (Irregular)

HIST 4273 Comparative Slavery (Irregular)

HIST 4333 Modern Islamic Thought (Irregular)

HIST 4403 Islam in Asia (Irregular)

HIST 4473 Environmental History (Irregular)

JWST 4013 Contemporary Jewish Thought (Odd years, Sp)  
or PHIL 4313 Contemporary Jewish Thought (Irregular)

SOCI 3103 Religion and Society (Irregular)

SOCI 3153 Urban Sociology (Irregular)

#### Group 4: Applied Global Topics

INST 300V Internship in International Studies (Su)

INST 399VH Honors Thesis (Sp, Su, Fa)

INST 4003 International Studies Seminar (Fa)

INST 406V Independent Study in International Studies (Irregular)

<sup>1</sup> Students planning to take upper-level ECON courses are advised to complete ECON 2143 to satisfy the major's Economics Requirement. ECON 2143 is a prerequisite for upper-level ECON courses. Students who opt to take ECON 2013 or ECON 2023 to fulfill the Economics Requirement must complete both ECON 2013 and ECON 2023 in order to satisfy the prerequisite for entry into upper-level ECON courses.

**Independent Study:** With prior approval of the International Studies program director or designee, up to six credit hours of independent study (INST 406V) may be earned and applied to the Global Studies requirement.

**Internships:** All International Studies majors are strongly encouraged to seek out an internship of international focus. Up to six hours of INST 300V Internship in International Studies may be earned and applied to the Global Studies requirement.

**Capstone Experience and Fulbright College Writing Requirement:** The International Studies Seminar (INST 4003/INST 4003H) provides

the capstone experience for International Studies majors. Successful completion of INST 4003 or INST 4003H with a grade of "C" or better satisfies the Fulbright College Writing Requirement for International Studies majors.

### International Studies B.A. Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

First Year	Units	
	Fall	Spring
UNIV 1001 University Perspectives (Sp, Su, Fa)	1	
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3	
PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)	3	
1013 Elementary II world language course (depending on placement in sequence)	3	
World Culture Requirement--1	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
INST 2013 Introduction to International Studies (Sp)		3
World Culture Requirement--2		3
2003 Intermediate I world language course (depending on placement in sequence)		3
MATH 2033 Mathematical Thought (Sp, Su, Fa) or MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) or MATH 2053 Finite Mathematics (Sp, Su, Fa) or MATH 2183 Mathematical Reasoning in a Quantitative World (Sp, Fa) or STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)		3
Year Total:	16	15

Second Year	Units	
	Fall	Spring
General Elective	3	
2013 Intermediate II World Language Course	3	
University/State Social Science Core (if PLSC 2813 taken for World Culture Requirement), else General Elective	3	
University/State Core Science Lecutre with Corequisite Lab Requirement	4	
University/State Core Fine Arts	3	

ECON 2143 Basic Economics: Theory and Practice (Sp, Su, Fa) (Majors are advised to take ECON 2143, because it satisfies the prerequisite for entry into upper-level ECON courses. Students who opt for ECON 2013 or ECON 2023 must complete both ECON 2013 and ECON 2023 to satisfy the prerequisite for entry into upper-level ECON courses.)		3
or ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa) or ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)		
Upper-level World Language Course <sup>1,2</sup>		3
Area Studies Elective, 3000+ level <sup>1,2</sup>		3
University/State Core Science Lecture with Corequisite Lab requirement		4
General Elective		3
Year Total:	16	16

Third Year	Units	
	Fall	Spring
Upper-level World Language Course <sup>1,2</sup>	3	
Global Studies Electives, 3000-4000 Level <sup>1,2</sup>	6	
Area Studies Elective, 3000-4000 Level Electives <sup>1,2</sup>	3	
General Electives	3	
Global Studies Elective, 3000+ level <sup>1,2</sup>		6
Area Studies Elective, 3000+ level (as needed) <sup>1,2</sup>		3
General Electives		6
Year Total:	15	15

Fourth Year	Units	
	Fall	Spring
INST 4003 International Studies Seminar (Fa) (completes Senior Writing Requirement) <sup>1,2</sup>	3	
Global Studies Elective, 3000+ (as needed) <sup>1,2</sup>	3	
Upper-Level Electives (as needed) <sup>1,2</sup>	9	
Upper Level Electives, 3000+ (as needed) <sup>1,2</sup>		12
Year Total:	15	12

Total Units in Sequence: 120

- 1 Meets 40-hour advanced credit hour requirement. See College Academic Regulations (p. 183).
- 2 Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations (p. 183).

**Honors:** Admission to the Fulbright Honors Program is open to international studies majors with a minimum cumulative grade-point average of 3.5 in all of their coursework. College and Departmental Honors candidates must complete a minimum of 12 hours in honors courses, including at least 3 but no more than 6 hours of INST 399VH. Hours earned in INST 399VH may be applied to the Global Studies Requirement for the international studies major.

To complete the required thesis, honors candidates should choose a faculty thesis director as early as possible but no later than the first semester of the student's junior year. Honors candidates must meet the college's requirements for an honors degree. Students graduating with honors typically graduate with the distinction *cum laude*. Higher distinctions (*magna cum laude*, *summa cum laude*) are awarded by the Honors Council in truly exceptional cases and are based upon the whole of the candidate's program of honors studies.

## Jewish Studies (JWST)

Jennifer Hoyer  
Director of Jewish Studies  
Kimpel Hall 425  
479-575-2951  
jhoyer@uark.edu

Jewish Studies website ([http://www.uark.edu/admin/arsc/public\\_html/jewishstudies](http://www.uark.edu/admin/arsc/public_html/jewishstudies))

The Jewish Studies minor introduces students to Jewish history, thought, and lifeways, through the millennia and around the globe. Students take courses introducing them to the basic tenets of Judaism, to fundamentals of Jewish languages (Aramaic, Biblical Hebrew, Modern Hebrew, and Yiddish), and to major strands in European, American, and Middle Eastern Jewish thought. Affiliated courses will cover Jewish literature; religious dialogue and history; current politics; ancient, medieval, early modern, and modern Jewish history; and discourse on gender, multiculturalism, and social justice. Jewish Studies offers a broad interdisciplinary context of coursework that can complement most programs of study.

**Requirements for a Minor in Jewish Studies:** Students who minor in Jewish Studies will take JWST 2003 Introduction to Judaism (Odd years, Fa), a 3-credit hour introductory interdisciplinary course that lays out historical, religious, cultural, linguistic, and philosophical foundations and questions critical to any exploration of any branch of Jewish Studies. Students must take an additional 12 hours of elective coursework from among options listed below. Other courses with significant Jewish Studies-related content and the possibility for an additional Jewish Studies project (for example Religious Studies courses, Middle East Studies courses, or appropriate literature or cinema courses), subject to approval by the chair of the Jewish Studies program, will also be considered.

### Choose 12 hours from the following:

12

JWST 3103	Introduction to Jewish Languages (Even years, Fa)
JWST 4003	Modern Jewish Thought (Irregular)
JWST 4013	Contemporary Jewish Thought (Odd years, Sp)
ENGL 3843	Topics in Modern and Contemporary American Literature and Culture (Irregular)
MRST 3013	Special Topics in Medieval Studies (Irregular)
GERM 4013	Germany and the Holocaust: The Significance of the Holocaust in Differentiated Contexts (Irregular)
GERM 470V	Special Topics (Irregular)
HIST 3043	History of the Modern Middle East (Irregular)
HIST 3473	Palestine and Israel in Modern Times (Irregular)
HIST 4143	Intellectual History of Europe Since the Enlightenment (Even years, Fa)
HIST 4493	Religion in America to 1860 (Irregular)
GREK 2003	Intermediate Ancient Greek I (Fa)
GREK 4093	Biblical and Patristic Greek (Irregular)

HUMN 425V	Colloquium (Irregular) (The Land of Israel in Jewish Thought)
HUMN 425V	Colloquium (Irregular) (Jewish-Christian Relations)
HUMN 425V	Colloquium (Irregular) (Intensive Biblical Hebrew)

Total Hours

12

## Journalism and Strategic Media (JOUR)

### Faculty

Lucy M. Brown, Clinical Assistant Professor  
Dale Carpenter, Professor  
Jee-Young Chung, Assistant Professor  
Larry D. Foley, Professor  
Bobbie Foster, Instructor  
Ignatius Fosu, Associate Professor  
Kara Gould, Assistant Professor  
Gerald Bernard Jordan, Associate Professor  
Tiffany King, Instructor  
Kim I. Martin, Instructor  
Raymond McCaffrey, Assistant Professor  
Ray Minor, Instructor  
Bret J. Schulte, Associate Professor  
Gina Shelton, Instructor  
Robyn M. Starling-Ledbetter, Instructor  
Rick Stockdell, Associate Professor  
Ricky Thein, Clinical Assistant Professor  
Hayot A. Tuychiev, Instructor  
Patsy Watkins, Associate Professor  
Rob Wells, Assistant Professor  
Jan L. Wicks, Professor

Larry Foley  
Chair of the School  
116 Kimpel Hall  
479-575-3601  
<http://fulbright.uark.edu/departments/journalism>

The School of Journalism and Strategic Media offers an undergraduate major leading to a Bachelor of Arts degree and gives students a choice of three concentrations. The school also offers two combined majors – a Journalism/English combined major and a Journalism/Political Science combined major – as well as a minor in journalism.

The purpose of the School of Journalism and Strategic Media is to provide students with knowledge of the history, theory, and ethics of mass communications, to educate students in journalistic skills, including the ability to express themselves logically and clearly, and to guide them in securing specialized knowledge of society appropriate to journalistic careers.

### Concentrations

Journalism majors must also fulfill the requirements for either the news/editorial concentration, the advertising/public relations concentration, or the broadcast concentration. Students must select a concentration when they enter the department. Specific non-journalism courses in addition to the journalism courses are required for the advertising/public relations concentration. The requirements for each concentration are listed in the tabs.

## Combined Majors

The School of Journalism and Strategic Media cooperates with the Department of Political Science and the Department of English to offer two combined majors, each of which leads to a Bachelor of Arts degree. Requirements for each combined major are listed in the tabs.

### Requirements for a B.A. degree in Journalism and Strategic Media:

All university students must fulfill the minimum University Core requirements (p. 81). A minimum of 72 hours in non-journalism courses must be applied toward the 120 hours required by the college for a Bachelor of Arts degree.

Bolded courses from the list below may be counted toward some part of the University Core requirements, as applicable.

Select one of the following: 3

MATH 2033	Mathematical Thought (Sp, Su, Fa)
MATH 2043	Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)
MATH 2053	Finite Mathematics (Sp, Su, Fa)
MATH 2183	Mathematical Reasoning in a Quantitative World (Sp, Fa)
STAT 2303	Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)

Or a higher level math.

**Intermediate I (course number 2003) of a World Language**<sup>1</sup> 3-6

Select one of the following: 3

WLIT 1113	World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)
WLIT 1123	World Literature II (ACTS Equivalency = ENGL 2123) (Sp, Su, Fa)

An Advanced Literature Course

A Language Literature Course

Select one of the following: 3

PHIL 2003	Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)
PHIL 2103	Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)

Any Philosophy Course at the 3000-level or higher (recommended: PHIL 3103 Ethics and the Professions)

PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa) 3

A second PLSC course (the following are recommended options): 3

PLSC 2813	Introduction to International Relations (Sp, Fa)
PLSC 3233	The American Congress (Fa)
PLSC 4233	The American Chief Executive (Sp)

ECON 2143 Basic Economics: Theory and Practice (Sp, Su, Fa) 3-6

or ECON 2013 Principles of Macroeconomics (ACTS Equivalency = & ECON 2023 ECON 2103) (Sp, Su, Fa)  
and Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)

COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa) 3

3000-4000 level HIST course 3

Cultural/Diversity Requirement: 3 hours of cultural/diversity studies to be selected from the following or as approved by the School of Journalism and Strategic Media: 3

ANTH 4533	Middle East Cultures (Sp)
COMM 4343	Intercultural Communication (Sp)
HIST 3233	African American History to 1877 (Sp, Fa) <sup>2</sup>
HIST 3243	African American History Since 1877 (Sp, Fa) <sup>2</sup>
HIST 3263	History of the American Indian (Fa) <sup>2</sup>
JOUR 3263	African Americans in Film (Irregular) <sup>3</sup>
JOUR 4923	History of the Black Press (Even years, Sp) <sup>3</sup>
SCWK 3193	Human Diversity and Social Work (Sp, Su, Fa)
SOCI 3193	Race, Class, and Gender in America (Sp, Fa) <sup>4</sup>

Other cultural/diversity courses as approved by the School of Journalism and Strategic Media.

### Journalism and Strategic Media Courses

A minimum of 34 semester hours in journalism are required, including 21 hours of journalism in one of the concentrations below. A minimum grade of "C" is required in all journalism courses that serve as prerequisites for advanced journalism courses. In certain courses a minimum grade of "B" is required.

### Journalism and Strategic Media Core

JOUR 1023	Media and Society (Sp, Fa)	3
JOUR 1033	Fundamentals of Journalism (Sp, Su, Fa)	3
JOUR 3633	Media Law (Sp, Fa)	3
JOUR 4333	Ethics in Journalism (Sp, Fa)	3
JOUR 4981	Journalism Writing Requirement (Sp, Su, Fa)	1

<sup>1</sup> The number of credit hours taken to complete this level of proficiency depends on placement level in the language course sequence.

<sup>2</sup> A cultural/diversity-approved HIST course is allowed to also satisfy the major's 3000-4000 level HIST course requirement.

<sup>3</sup> A cultural/diversity-approved JOUR course is also allowed to satisfy a JOUR elective.

<sup>4</sup> SOCI 2013 is a prerequisite to SOCI 3193.

### Advertising/Public Relations Concentration:

JOUR 3723	Advertising Principles (Sp, Fa)	3
JOUR 3743	Public Relations Principles (Sp, Fa)	3
JOUR 4143	Public Relations Writing (Sp, Fa)	3
JOUR 4423	Creative Strategy and Execution (Sp, Fa)	3
JOUR 4453	Media Planning & Strategy (Sp, Fa)	3
	or JOUR 4473 Account Planning (Sp, Fa)	
	Plus any two additional journalism courses. It is recommended that one course choice be an internship.	6
MKTG 3433	Introduction to Marketing (Sp, Su, Fa)	3
MKTG 3553	Consumer Behavior (Sp, Fa)	3

Students seeking admission to the Advertising/Public Relations Concentration must have an overall GPA of 2.5 or higher: 1) to be admitted to the Ad/PR Sequence, and 2) to enroll in JOUR 3723 and JOUR 3743.

Students in the Advertising/Public Relations Concentration are required to earn a grade of "B" or higher in both JOUR 3723 and JOUR 3743 to qualify to take all upper level Advertising/Public Relations Concentration



courses. Students may retake JOUR 3723 and JOUR 3743 only once to earn a grade of "B" or higher.

**Writing Requirement:** Successful completion of JOUR 4981 with a grade of "C" or better satisfies the Fulbright College Writing Requirement for journalism majors.

### Journalism B.A. with Advertising-PR Sequence Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program. The journalism major includes three sequences: News/Editorial, Broadcast, and Advertising/Public Relations. Each is shown below. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all university/state core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (if required) or STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)	3	
JOUR 1023 Media and Society (Sp, Fa) (or social science state/university core requirement) or JOUR 1033 Fundamentals of Journalism (Sp, Su, Fa)	3	
PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)	3	
1013 Elementary II world language course	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa) (if still needed, otherwise, General Elective)		3
JOUR 1033 Fundamentals of Journalism (Sp, Su, Fa) (or social science state/university core requirement, as needed) or JOUR 1023 Media and Society (Sp, Fa)		3
2003 Intermediate I world language course		3
ECON 2143 Basic Economics: Theory and Practice (Sp, Su, Fa) (or fine arts university/state core requirement)		3
Year Total:	15	15

Second Year	Units	
	Fall	Spring
Select one of the following: Fine arts university/state core requirement. ECON 2143 Basic Economics: Theory and Practice (Sp, Su, Fa) (As needed)	3	
Social science state/university core requirement or JOUR 1023 Media and Society or JOUR 1033 Fundamentals of Journalism (as needed)	3	

Science university/state core lecture with corequisite lab requirement	4	
PHIL 2003 Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa) or PHIL 2103 Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa) or PHIL 3103 Ethics and the Professions (Sp, Su, Fa)	3	
Advanced Level Elective <sup>†</sup>		3
Advanced Level, Elective <sup>†</sup>		3
MKTG 3433 Introduction to Marketing (Sp, Su, Fa) <sup>†</sup>		3
Social science state/university core requirement		3
WLIT 1113 World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa) or WLIT 1123 World Literature II (ACTS Equivalency = ENGL 2123) (Sp, Su, Fa)		3
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)		3
Year Total:	16	15

Third Year	Units	
	Fall	Spring
NOTE: Students must have 60 hours completed and an overall GPA of 2.5 or higher to enroll in JOUR 3723 or JOUR 3743. There are no exceptions.		
JOUR 3723 Advertising Principles (Sp, Fa) <sup>††</sup> or JOUR 3743 Public Relations Principles (Sp, Fa)		3
MKTG 3553 Consumer Behavior (Sp, Fa) <sup>†</sup>		3
Social Science university/state core requirement		3
Science university/state core lecture and corequisite lab		4
3000-4000 HIST course or 3000-4000 non-JOUR Fulbright College Elective <sup>††</sup>		3
NOTE: Students must have 60 hours completed and an overall GPA of 2.5 or higher to enroll in JOUR 3723 or JOUR 3743. There are no exceptions.		
JOUR 3743 Public Relations Principles (Sp, Fa) (if not taken earlier) <sup>††</sup> or JOUR 3723 Advertising Principles (Sp, Fa)		3
JOUR 3633 Media Law (Sp, Fa) <sup>††</sup>		3
Cultural/diversity studies course or PLSC course		3
3000-4000 non-JOUR Fulbright College elective or 3000-4000 HIST course <sup>††</sup>		3
JOUR 4333 Ethics in Journalism (Sp, Fa)		3
Year Total:	16	15

Fourth Year	Units	
	Fall	Spring
NOTE: Students must have 90 hours completed, an overall GPA of 2.5 or higher, and must have completed JOUR 3723 and 3743 with a grade of "B" or better to enroll in JOUR 4143, JOUR 4423, JOUR 4453 and JOUR 4473. There are no exceptions.		
JOUR 4143 Public Relations Writing (Sp, Fa) (or in Spring Semester 4) <sup>††</sup>	3	
JOUR 4423 Creative Strategy and Execution (Sp, Fa) (or in Spring Semester 4) <sup>††</sup>	3	
JOUR 4453 Media Planning & Strategy (Sp, Fa) (or in Spring Semester 4) <sup>††</sup> or JOUR 4473 Account Planning (Sp, Fa)	3	
JOUR Elective	3	
Non-JOUR Advanced Level Elective <sup>†</sup>	3	
JOUR 4981 Journalism Writing Requirement (Sp, Su, Fa) (or in Spring Semester 4)	1	
JOUR 4981 Journalism Writing Requirement (Sp, Su, Fa) (if still needed)		0-1
JOUR Elective		3
PLSC course or Cultural/diversity studies course as needed		3
Non-JOUR General Electives		6
Year Total:	16	12
Total Units in Sequence:		120

† Meets 40-hour advanced credit hour requirement. See Fulbright College Academic Regulations.

†† Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College) in addition to meeting the 40-hour rule. See Fulbright College Academic Regulations.

#### Requirements for a B.A. degree in Journalism and Strategic Media

**Media:** All university students must fulfill the minimum University Core requirements (p. 81). A minimum of 72 hours in non-journalism courses must be applied toward the 120 hours required by the college for a Bachelor of Arts degree.

Bolded courses from the list below may be counted toward some part of the University Core requirements, as applicable.

Select one of the following:	3
MATH 2033 Mathematical Thought (Sp, Su, Fa)	
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)	
MATH 2053 Finite Mathematics (Sp, Su, Fa)	
MATH 2183 Mathematical Reasoning in a Quantitative World (Sp, Fa)	
STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)	
Or a higher level math.	
<b>Intermediate I (course number 2003) of a World Language</b> <sup>1</sup>	3-6
Select one of the following:	3
WLIT 1113 World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)	

WLIT 1123 World Literature II (ACTS Equivalency = ENGL 2123) (Sp, Su, Fa)	
An Advanced Literature Course	
A Language Literature Course	
Select one of the following:	3
PHIL 2003 Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)	
PHIL 2103 Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)	
Any Philosophy Course at the 3000-level or higher (recommended: PHIL 3103 Ethics and the Professions)	
PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)	3
A second PLSC course (the following are recommended options):	3
PLSC 2813 Introduction to International Relations (Sp, Fa)	
PLSC 3233 The American Congress (Fa)	
PLSC 4233 The American Chief Executive (Sp)	
ECON 2143 Basic Economics: Theory and Practice (Sp, Su, Fa)	3-6
or ECON 2013 Principles of Macroeconomics (ACTS Equivalency = & ECON 2023 ECON 2103) (Sp, Su, Fa) and Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3
3000-4000 level HIST course	3
Cultural/Diversity Requirement: 3 hours of cultural/diversity studies to be selected from the following or as approved by the School of Journalism and Strategic Media:	3
ANTH 4533 Middle East Cultures (Sp)	
COMM 4343 Intercultural Communication (Sp)	
HIST 3233 African American History to 1877 (Sp, Fa) <sup>2</sup>	
HIST 3243 African American History Since 1877 (Sp, Fa) <sup>2</sup>	
HIST 3263 History of the American Indian (Fa) <sup>2</sup>	
JOUR 3263 African Americans in Film (Irregular) <sup>3</sup>	
JOUR 4923 History of the Black Press (Even years, Sp) <sup>3</sup>	
SCWK 3193 Human Diversity and Social Work (Sp, Su, Fa)	
SOCI 3193 Race, Class, and Gender in America (Sp, Fa) <sup>4</sup>	
Other cultural/diversity courses as approved by the School of Journalism and Strategic Media.	

#### Journalism and Strategic Media Courses

A minimum of 34 semester hours in journalism are required, including 21 hours of journalism in one of the concentrations below. A minimum grade of "C" is required in all journalism courses that serve as prerequisites for advanced journalism courses. In certain courses a minimum grade of "B" is required.

#### Journalism and Strategic Media Core

JOUR 1023 Media and Society (Sp, Fa)	3
JOUR 1033 Fundamentals of Journalism (Sp, Su, Fa)	3
JOUR 3633 Media Law (Sp, Fa)	3
JOUR 4333 Ethics in Journalism (Sp, Fa)	3
JOUR 4981 Journalism Writing Requirement (Sp, Su, Fa)	1

<sup>1</sup> The number of credit hours taken to complete this level of proficiency depends on placement level in the language course sequence.

- <sup>2</sup> A cultural/diversity-approved HIST course is allowed to also satisfy the major's 3000-4000 level HIST course requirement.
- <sup>3</sup> A cultural/diversity-approved JOUR course is also allowed to satisfy a JOUR elective.
- <sup>4</sup> SOCI 2013 is a prerequisite to SOCI 3193.

**Broadcast Concentration:**

JOUR 2032 & JOUR 2031L	Broadcast News Reporting I (Sp, Fa) and Broadcast News Reporting I Laboratory (Sp, Fa)	3
JOUR 3072 & JOUR 3071L	Broadcast News Reporting II (Sp, Fa) and Broadcast News Reporting II Laboratory (Sp, Fa)	3
JOUR 4863	Television News Reporting I (Sp, Fa)	3
JOUR 4873	Television News Reporting II (Sp, Fa)	3
JOUR 4893	Television News Producing (Sp, Fa)	3
Plus any two additional journalism courses		6

It is recommended that one course choice be an internship and another choice be JOUR 4883.

**Writing Requirement:** Successful completion of JOUR 4981 with a grade of "C" or better satisfies the Fulbright College Writing Requirement for journalism majors.

**Journalism B.A. with Broadcast Concentration**

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (if required) or MATH 2033 Mathematical Thought (Sp, Su, Fa) or MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) or MATH 2053 Finite Mathematics (Sp, Su, Fa) or MATH 2183 Mathematical Reasoning in a Quantitative World (Sp, Fa) or MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) or STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)	3	
JOUR 1023 Media and Society (Sp, Fa)	3	
PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa) (or fine arts state/university core requirement)	3	
Social science state/university core requirement	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3

MATH 2033 Mathematical Thought (Sp, Su, Fa) (if still needed) or MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) or MATH 2053 Finite Mathematics (Sp, Su, Fa) or MATH 2183 Mathematical Reasoning in a Quantitative World (Sp, Fa) or MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) or STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)		3
JOUR 1033 Fundamentals of Journalism (Sp, Su, Fa)		3
Science university/state core lecture and corequisite lab		4
Fine arts state/university core requirement or PLSC 2003 American National Government, as needed		3
Year Total:	15	16

Second Year	Units	
	Fall	Spring
Non-JOUR General Elective	3	
Social science state/university core requirement	3	
WLIT 1113 World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa) or WLIT 1123 World Literature II (ACTS Equivalency = ENGL 2123) (Sp, Su, Fa)	3	
Advanced Level Elective <sup>†</sup>	3	
1013 Elementary II world language course (depending on placement)	3	
Non-JOUR Advanced Level Elective <sup>†</sup>		3
JOUR 2032 Broadcast News Reporting I (Sp, Fa) & JOUR 2031L Broadcast News Reporting I Laboratory (Sp, Fa) <sup>†</sup>		3
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)		3
PHIL 2003 Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa) or PHIL 2103 Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa) or PHIL 3103 Ethics and the Professions (Sp, Su, Fa)		3
2003 Intermediate I world language course		3
Year Total:	15	15

Third Year	Units	
	Fall	Spring
JOUR 3072 Broadcast News Reporting II (Sp, Fa) & JOUR 3071L Broadcast News Reporting II Laboratory (Sp, Fa) <sup>††</sup>	3	
JOUR 3633 Media Law (Sp, Fa) <sup>††</sup>	3	
ECON 2143 Basic Economics: Theory and Practice (Sp, Su, Fa) (or PLSC course) <sup>†</sup>	3	
Non-JOUR General Electives	6	
JOUR 4863 Television News Reporting I (Sp, Fa) <sup>††</sup>		3
JOUR 4893 Television News Producing (Sp, Fa)		3

JOUR 4333 Ethics in Journalism (Sp, Fa) <sup>†‡</sup> or Advanced Level Elective <sup>†</sup>	3
PLSC course or ECON 2143 Basic Economics (as needed)	3
Science university/state core lecture and corequisite lab	4
<b>Year Total:</b>	<b>15 16</b>

<b>Fourth Year</b>	<b>Units</b>	
	<b>Fall</b>	<b>Spring</b>
JOUR 4873 Television News Reporting II (Sp, Fa) <sup>†‡</sup>	3	
JOUR upper level elective <sup>†‡</sup>	3	
Non-JOUR Cultural/diversity studies course or 3000-4000 HIST course <sup>†‡</sup>	3	
Non-JOUR Advanced Level Elective <sup>†</sup>	6	
JOUR upper level elective <sup>†‡</sup>		3
JOUR 4981 Journalism Writing Requirement (Sp, Su, Fa) <sup>†‡</sup>		1
3000-4000 HIST course <sup>†‡</sup> or non-JOUR cultural/ diversity studies course		3
Advanced Level Elective or <sup>†</sup>		3
JOUR 4333 Ethics in Journalism (Sp, Fa) (as needed) <sup>†‡</sup>		3
General Electives		3
<b>Year Total:</b>	<b>15</b>	<b>13</b>
<hr/>		
Total Units in Sequence:	120	

† Meets 40-hour advanced credit hour requirement. See Fulbright College Academic Regulations.  
 ‡ Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College) in addition to meeting the 40-hour rule. See Fulbright College Academic Regulations.

**Requirements for a B.A. degree in Journalism and Strategic Media:** All university students must fulfill the minimum University Core requirements (p. 81). A minimum of 72 hours in non-journalism courses must be applied toward the 120 hours required by the college for a Bachelor of Arts degree.

Bolded courses from the list below may be counted toward some part of the University Core requirements, as applicable.

Select one of the following:	3
<b>MATH 2033</b> Mathematical Thought (Sp, Su, Fa)	
<b>MATH 2043</b> Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)	
<b>MATH 2053</b> Finite Mathematics (Sp, Su, Fa)	
<b>MATH 2183</b> Mathematical Reasoning in a Quantitative World (Sp, Fa)	
<b>STAT 2303</b> Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)	
Or a higher level math.	
<b>Intermediate I (course number 2003) of a World Language</b> <sup>1</sup>	3-6
Select one of the following:	3

WLIT 1113	World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)	
WLIT 1123	World Literature II (ACTS Equivalency = ENGL 2123) (Sp, Su, Fa)	
	An Advanced Literature Course	
	A Language Literature Course	
Select one of the following:		3
PHIL 2003	Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)	
PHIL 2103	Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)	
Any Philosophy Course at the 3000-level or higher (recommended: PHIL 3103 Ethics and the Professions)		
PLSC 2003	American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)	3
A second PLSC course (the following are recommended options):		3
PLSC 2813	Introduction to International Relations (Sp, Fa)	
PLSC 3233	The American Congress (Fa)	
PLSC 4233	The American Chief Executive (Sp)	
ECON 2143	Basic Economics: Theory and Practice (Sp, Su, Fa)	3-6
or ECON 2013 Principles of Macroeconomics (ACTS Equivalency = & ECON 2023 ECON 2103) (Sp, Su, Fa) and Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)		
COMM 1313	Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3
3000-4000 level HIST course		3
Cultural/Diversity Requirement: 3 hours of cultural/diversity studies to be selected from the following or as approved by the School of Journalism and Strategic Media:		3
ANTH 4533	Middle East Cultures (Sp)	
COMM 4343	Intercultural Communication (Sp)	
HIST 3233	African American History to 1877 (Sp, Fa) <sup>2</sup>	
HIST 3243	African American History Since 1877 (Sp, Fa) <sup>2</sup>	
HIST 3263	History of the American Indian (Fa) <sup>2</sup>	
JOUR 3263	African Americans in Film (Irregular) <sup>3</sup>	
JOUR 4923	History of the Black Press (Even years, Sp) <sup>3</sup>	
SCWK 3193	Human Diversity and Social Work (Sp, Su, Fa)	
SOCI 3193	Race, Class, and Gender in America (Sp, Fa) <sup>4</sup>	
Other cultural/diversity courses as approved by the School of Journalism and Strategic Media.		

**Journalism and Strategic Media Courses**

A minimum of 34 semester hours in journalism are required, including 21 hours of journalism in one of the concentrations below. A minimum grade of "C" is required in all journalism courses that serve as prerequisites for advanced journalism courses. In certain courses a minimum grade of "B" is required.

**Journalism and Strategic Media Core**

JOUR 1023	Media and Society (Sp, Fa)	3
JOUR 1033	Fundamentals of Journalism (Sp, Su, Fa)	3
JOUR 3633	Media Law (Sp, Fa)	3
JOUR 4333	Ethics in Journalism (Sp, Fa)	3
JOUR 4981	Journalism Writing Requirement (Sp, Su, Fa)	1

- <sup>1</sup> The number of credit hours taken to complete this level of proficiency depends on placement level in the language course sequence.
- <sup>2</sup> A cultural/diversity-approved HIST course is allowed to also satisfy the major's 3000-4000 level HIST course requirement.
- <sup>3</sup> A cultural/diversity-approved JOUR course is also allowed to satisfy a JOUR elective.
- <sup>4</sup> SOCI 2013 is a prerequisite to SOCI 3193.

**News/Editorial Concentration:**

JOUR 2013	News Reporting I (Sp, Fa)	3
JOUR 3013	Editing (Sp, Fa)	3
JOUR 3123	Feature Writing (Sp, Fa)	3
JOUR 3023	News Reporting II (Sp, Fa)	3
	or JOUR 4503 Magazine Writing (Sp)	
	or JOUR 4553 Magazine Editing and Production I (Sp)	
Plus any three additional journalism courses.		9

It is recommended that one course choice be an internship.

**Writing Requirement:** Successful completion of JOUR 4981 with a grade of "C" or better satisfies the Fulbright College Writing Requirement for journalism majors.

## Journalism B.A. with News/Editorial Sequence

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program. The journalism major includes three sequences: News/Editorial, Broadcast, and Advertising/Public Relations. Each is shown below. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3	
or MATH 2033 Mathematical Thought (Sp, Su, Fa)		
or MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)		
or MATH 2053 Finite Mathematics (Sp, Su, Fa)		
or MATH 2183 Mathematical Reasoning in a Quantitative World (Sp, Fa)		
or MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)		
or STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)		
JOUR 1023 Media and Society (Sp, Fa)	3	
PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa) (or Fine Arts state/university core requirement)	3	
Social science state/university core requirement	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3

MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) (as needed, else General Elective)		3
or MATH 2053 Finite Mathematics (Sp, Su, Fa)		
or MATH 2183 Mathematical Reasoning in a Quantitative World (Sp, Fa)		
or MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)		
or STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)		
JOUR 1033 Fundamentals of Journalism (Sp, Su, Fa)		3
Science university/state core lecture and corequisite lab		4
Fine arts state/university core requirement or PLSC 2003, as needed		3
Year Total:	15	16

**Second Year**

	Units	
	Fall	Spring
JOUR 2013 News Reporting I (Sp, Fa) <sup>†</sup>	3	
Social science state/university core requirement	3	
WLIT 1113 World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)	3	
or WLIT 1123 World Literature II (ACTS Equivalency = ENGL 2123) (Sp, Su, Fa)		
non-JOUR General elective	3	
1013 Elementary II world language course	3	
JOUR 3013 Editing (Sp, Fa) <sup>††</sup>		3
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)		3
PHIL 2003 Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)		3
or PHIL 2103 Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)		
or PHIL 3103 Ethics and the Professions (Sp, Su, Fa)		
2003 Intermediate I world language course		3
General Elective		3
Year Total:	15	15

**Third Year**

	Units	
	Fall	Spring
JOUR 3123 Feature Writing (Sp, Fa) <sup>††</sup>	3	
JOUR 3633 Media Law (Sp, Fa) <sup>††</sup>	3	
ECON 2143 Basic Economics: Theory and Practice (Sp, Su, Fa) ( or PLSC course)	3	
General elective	3	
Science university/state core lecture and corequisite lab	4	
JOUR 3023 News Reporting II (Sp, Fa) <sup>††</sup>		3
or JOUR 4503 Magazine Writing (Sp)		
or JOUR 4553 Magazine Editing and Production I (Sp)		
JOUR upper level elective <sup>††</sup>		3

PLSC course or ECON 2143 Basic Economics (as needed)	3
Non-JOUR General Electives	6
Year Total:	16 15

Fourth Year	Units	
	Fall	Spring
JOUR upper level elective <sup>††</sup>	3	
Non-JOUR Cultural/diversity studies course or 3000-4000 HIST course	3	
JOUR 4333 Ethics in Journalism (Sp, Fa) <sup>††</sup>	3	
Advanced level non-JOUR elective <sup>†</sup>	3	
General Electives	3	
JOUR 4981 Journalism Writing Requirement (Sp, Su, Fa) <sup>††</sup>		1
JOUR upper level elective <sup>††</sup>		3
3000-4000 HIST course or non-JOUR Cultural/diversity studies course as needed		3
Advanced Level non-JOUR Elective <sup>†</sup>		3
Non-JOUR General Electives		3
Year Total:	15	13
Total Units in Sequence:		120

† Meets 40-hour advanced credit hour requirement. See Fulbright College Academic Regulations.

†† Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See Fulbright College Academic Regulations.

## Requirements for a Combined Major in English and Journalism

All university students must fulfill the minimum University Core requirements (p. 81). A minimum of 72 hours in non-journalism courses must be applied toward the 120 hours required by the college for a Bachelor of Arts degree. Bolded courses from the list below may be counted toward some part of the University Core/state minimum core requirements, as applicable.

Select one of the following:	3
<b>MATH 2033</b> Mathematical Thought (Sp, Su, Fa)	
<b>MATH 2043</b> Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)	
<b>MATH 2053</b> Finite Mathematics (Sp, Su, Fa)	
<b>MATH 2183</b> Mathematical Reasoning in a Quantitative World (Sp, Fa)	
<b>STAT 2303</b> Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)	
Or Higher Level MATH	

**Intermediate I (course number 2003) of a World Language.**<sup>1</sup> 3-6

Select one of the following:	3
<b>WLIT 1113</b> World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)	
<b>WLIT 1123</b> World Literature II (ACTS Equivalency = ENGL 2123) (Sp, Su, Fa)	
An Advanced Literature Course	

A Language Literature Course	
Select one of the following:	3
<b>PHIL 2003</b> Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)	
<b>PHIL 2103</b> Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)	
Any Philosophy Course at the 3000-level or higher (recommended: PHIL 3103 Ethics and the Professions) higher	
<b>PLSC 2003</b> American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)	3
A second PLSC Course (the following are recommended options):	3
<b>PLSC 2813</b> Introduction to International Relations (Sp, Fa)	
<b>PLSC 3233</b> The American Congress (Fa)	
<b>PLSC 4233</b> The American Chief Executive (Sp)	
<b>ECON 2143</b> Basic Economics: Theory and Practice (Sp, Su, Fa)	3-6
or <b>ECON 2013</b> Principles of Macroeconomics (ACTS Equivalency = & <b>ECON 2023</b> Principles of Microeconomics (ACTS Equivalency = <b>ECON 2203</b> ) (Sp, Su, Fa)	
<b>COMM 1313</b> Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3
3000-4000 level HIST Course *	3
3 hours of cultural/diversity studies to be selected from the following or as approved by the School of Journalism and Strategic Media	3
<b>ANTH 4533</b> Middle East Cultures (Sp)	
<b>COMM 4343</b> Intercultural Communication (Sp)	
<b>HIST 3233</b> African American History to 1877 (Sp, Fa) *	
<b>HIST 3243</b> African American History Since 1877 (Sp, Fa) *	
<b>HIST 3263</b> History of the American Indian (Fa) *	
<b>SCWK 3193</b> Human Diversity and Social Work (Sp, Su, Fa)	
<b>JOUR 3263</b> African Americans in Film (Irregular) **	
<b>JOUR 4923</b> History of the Black Press (Even years, Sp) **	
<b>SCWK 3193</b> Human Diversity and Social Work (Sp, Su, Fa)	
<b>SOCI 3193</b> Race, Class, and Gender in America (Sp, Fa) (SOCI 2013 prerequisite)	
Other cultural/diversity-related topics as approved by the School of Journalism and Strategic Media	

<sup>1</sup> The number of credit hours taken to complete this level of proficiency depends on placement level in the language course sequence.

\* A cultural/diversity-approved HIST course is allowed to also satisfy the major's 3000-4000 level HIST course requirement.

\*\* A cultural/diversity-approved JOUR course is also allowed to satisfy a JOUR elective.

**The Journalism requirements for this combined major are as follows:**

The journalism requirement may be satisfied by 24 semester hours of courses, including JOUR 1023, JOUR 1033, and JOUR 3633. The remaining 15 hours are filled from the following concentrations.

### News/Editorial Concentration:

<b>JOUR 2013</b> News Reporting I (Sp, Fa)	3
<b>JOUR 3013</b> Editing (Sp, Fa)	3

JOUR 3023	News Reporting II (Sp, Fa)	3
	or JOUR 4503 Magazine Writing (Sp)	
	or JOUR 4553 Magazine Editing and Production I (Sp)	
JOUR 3123	Feature Writing (Sp, Fa)	3
One Additional Journalism Course		3
Total Hours		15

**Broadcast Concentration:**

JOUR 2032	Broadcast News Reporting I (Sp, Fa)	3
& JOUR 2031L	and Broadcast News Reporting I Laboratory (Sp, Fa)	
JOUR 3072	Broadcast News Reporting II (Sp, Fa)	3
& JOUR 3071L	and Broadcast News Reporting II Laboratory (Sp, Fa)	
JOUR 4863	Television News Reporting I (Sp, Fa)	3
JOUR 4873	Television News Reporting II (Sp, Fa)	3
One Additional Journalism Course		3
Total Hours		15

**The English requirements for this combined major are as follows:**

24 hours of English courses (not counting ENGL 0002, ENGL 1013, ENGL 1023, and ENGL 2003) to include any nine hours of survey courses chosen from:

ENGL 2303	English Literature from the Beginning through the 17th Century (ACTS = ENGL 2673) (Sp, Fa)	3
ENGL 2313	Survey of English Literature from 1700 to 1900 (ACTS Equivalency = ENGL 2683) (Sp, Fa)	3
ENGL 2323	Survey of Modern and Contemporary British, Irish, and Postcolonial Literature (Sp, Fa)	3
ENGL 2343	Survey of American Lit from the Colonial Period through Naturalism (ACTS Equiv=ENGL 2653) (Sp, Fa)	3
ENGL 2353	Survey of Modern and Contemporary American Literature (ACTS Equivalency = ENGL 2663) (Sp, Fa)	3

and 15 additional hours chosen from English courses numbered above 3000 and WLIT courses above 2333.

In addition, students are strongly recommended to complete up through the 2013 Intermediate II level of a world language.

**Writing Requirement:** All upper division English courses require a research or an analytical paper except ENGL 4003 and the courses in creative writing: (ENGL 3013, ENGL 4013, ENGL 4023, and ENGL 4073). For this reason, all students who fulfill the requirements for the combined major in Journalism and English thereby fulfill the Fulbright College writing requirement.

**Assessment Requirement:** Every senior English major must take the program assessment exam administered by the department each spring semester to graduate. Exam results will not affect GPA, although the student's score will be noted on his or her permanent academic record. This requirement may be waived in extraordinary circumstances by the department's Director of Undergraduate Studies. Contact your adviser for more information.

## Combined Major in English and Journalism Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3-4	
or MATH 2033 Mathematical Thought (Sp, Su, Fa)		
or MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)		
or MATH 2053 Finite Mathematics (Sp, Su, Fa)		
or MATH 2183 Mathematical Reasoning in a Quantitative World (Sp, Fa)		
or MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)		
or STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)		
JOUR 1023 Media and Society (Sp, Fa)		3
or JOUR 1033 Fundamentals of Journalism (Sp, Su, Fa)		
PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa) (or fine arts university/state core requirement)		3
1013 Elementary II world language course (depending on placement in sequence)		3
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		
MATH 2033 Mathematical Thought (Sp, Su, Fa) (if higher MATH still needed, else non-JOUR General Elective)		3-4
or MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)		
or MATH 2053 Finite Mathematics (Sp, Su, Fa)		
or MATH 2183 Mathematical Reasoning in a Quantitative World (Sp, Fa)		
or MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)		
or STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)		
JOUR 1033 Fundamentals of Journalism (Sp, Su, Fa) (as needed)		3
or JOUR 1023 Media and Society (Sp, Fa)		
Science university/state core lecture and corequisite lab		4
2003 Intermediate I world language course (depending on placement in sequence)		3
Year Total:	15	16

Second Year	Units	
	Fall	Spring
ENGL from survey group <sup>†</sup>	3	
JOUR 2013 News Reporting I (Sp, Fa)	3	
Advanced general elective <sup>†</sup>	3	
2013 Intermediate II world language course (strongly recommended)	3	
Fine arts university/state core requirement or PLSC 2003 American National Government	3	
ENGL from survey group <sup>†</sup>		3
JOUR 3013 Editing (Sp, Fa) (for Print or JOUR 2032/2031L for Broadcast) <sup>††</sup>		3
Social Science University/state core requirement		3
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)		3
PHIL 2003 Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa) or PHIL 2103 Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)		3
Year Total:	15	15

Third Year	Units	
	Fall	Spring
JOUR 3023 News Reporting II (Sp, Fa) (for Print or JOUR 3072/3071L for Broadcast)	3	
ENGL from survey group <sup>†</sup>	3	
Social science University/state core requirement	3	
WLIT 1113 World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa) or WLIT 1123 World Literature II (ACTS Equivalency = ENGL 2123) (Sp, Su, Fa)	3	
Science university/state core lecture and corequisite lab	4	
JOUR 3633 Media Law (Sp, Fa) <sup>††</sup>		3
ENGL/WLIT Upper Level Elective <sup>††</sup>		3
Second PLSC course or ECON 2143 Basic Economics		3
Cultural/Diversity Requirement or 3000+ HIST course <sup>††</sup>		3
General Electives		3
Year Total:	16	15

Fourth Year	Units	
	Fall	Spring
ENGL/WLIT Upper Level Electives <sup>††</sup>	6	
JOUR 3123 Feature Writing (Sp, Fa) (for Print or JOUR 4863 for Broadcast) <sup>††</sup>	3	
3000+ HIST course or ††Cultural/Diversity Requirement as needed <sup>††</sup>	3	
ECON 2143 Basic Economics: Theory and Practice (Sp, Su, Fa) (or second PLSC course as needed)	3	
ENGL/WLIT Upper Level Electives <sup>††</sup>		6
JOUR Upper-level Elective (Print) or ††JOUR 4873 Television News Reporting II (Broadcast)		3

General Elective (Print) or JOUR Upper-level Elective (Broadcast) <sup>††</sup>		3
General Elective		1
Year Total:	15	13

Total Units in Sequence: 120

### Requirements for the Combined Major in Journalism and Political Science

All university students must fulfill the minimum University Core requirements (p. 81). A minimum of 72 hours in non-journalism courses must be applied toward the 120 hours required by the college for a Bachelor of Arts degree. Bolded courses from the list below may be applied to portions of the University Core requirements.

Select one of the following:		3
MATH 2033 Mathematical Thought (Sp, Su, Fa)		
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)		
MATH 2053 Finite Mathematics (Sp, Su, Fa)		
MATH 2183 Mathematical Reasoning in a Quantitative World (Sp, Fa)		
or Higher Level MATH		

STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)		3
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#### Intermediate I (course number 2003) of a World Language <sup>1</sup>

Select one of the following: 3

WLIT 1113 World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)		
WLIT 1123 World Literature II (ACTS Equivalency = ENGL 2123) (Sp, Su, Fa)		

An Advanced Literature Course  
A Language Literature Course

Select one of the following: 3

PHIL 2003 Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)		
PHIL 2103 Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)		

Any Philosophy Course at the 3000-level or higher (recommended: PHIL 3103 Ethics and the Professions)

PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)		3
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A second PLSC course (the following are recommended options): 3

PLSC 2813 Introduction to International Relations (Sp, Fa)		
PLSC 3233 The American Congress (Fa)		
PLSC 4233 The American Chief Executive (Sp)		

ECON 2143 Basic Economics: Theory and Practice (Sp, Su, Fa)		3-6
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or ECON 2013 Principles of Macroeconomics (ACTS Equivalency = & ECON 2023 ECON 2103) (Sp, Su, Fa) and Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)

COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)		3
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3000-4000 Level HIST Course \* 3



3 hours of cultural/diversity studies to be selected from the following or as approved by the School of Journalism and Strategic Media. Select one of the following:

ANTH 4533	Middle East Cultures (Sp)	
COMM 4343	Intercultural Communication (Sp)	
HIST 3233	African American History to 1877 (Sp, Fa) *	
HIST 3243	African American History Since 1877 (Sp, Fa) *	
HIST 3263	History of the American Indian (Fa) *	
SCWK 3193	Human Diversity and Social Work (Sp, Su, Fa)	
JOUR 3263	African Americans in Film (Irregular) **	
JOUR 4923	History of the Black Press (Even years, Sp) **	
SOCI 3193	Race, Class, and Gender in America (Sp, Fa)	
Other cultural/diversity-related topics as approved by the School of Journalism and Strategic Media		

<sup>1</sup> The number of credit hours taken to complete this level of proficiency depends on placement level in the language course sequence.

\* A cultural/diversity-approved HIST course is allowed to also satisfy the major's 3000-4000 level HIST course requirement.

\*\* A cultural/diversity-approved JOUR course is also allowed to satisfy a JOUR elective.

## Political Science Requirements

The political science requirement for the combined major may be satisfied by 24 semester hours of courses, including PLSC 2003, PLSC 2013, PLSC 4373, and either an additional 15 hours of advanced political science courses elected entirely from American political affairs courses:

### American Political Affairs

PLSC 3103	Public Administration (Sp)	3
PLSC 3153	Public Policy (Fa)	3
PLSC 3183	Public Personnel Management (Irregular)	3
PLSC 3223	Arkansas Politics and the Nation (Sp)	3
PLSC 3233	The American Congress (Fa)	3
PLSC 3243	The Judicial Process (Fa)	3
PLSC 3253	Urban Politics (Sp)	3
PLSC 3603	Scope and Methods of Political Science (Irregular)	3
PLSC 3853	American Foreign Policy (Fa)	3
PLSC 3913	American Political Thought Before 1900 (Irregular)	3
PLSC 3923H	Honors Colloquium (Irregular)	3
PLSC 3933	Contemporary American Political Thought (Irregular)	3
PLSC 394V	Readings in Political Science (Sp, Su, Fa)	1-3
PLSC 3983	Politics in Literature (Sp)	3
PLSC 399VH	Honors Course (Irregular)	1-3
PLSC 4193	Administrative Law (Sp)	3
PLSC 4203	American Political Parties (Irregular)	3
PLSC 4213	Campaigns and Elections (Irregular)	3
PLSC 4253	The U.S. Constitution I (Sp)	3
PLSC 4283	Federalism and Intergovernmental Relations (Even years, Sp)	3

Or an additional 15 hours of advanced political science courses elected entirely from foreign affairs courses:

### Foreign Affairs

PLSC 3503	Governments and Politics of East Asia (Fa)	3
PLSC 3523	Politics of the Middle East (Fa)	3
PLSC 3573	Governments and Politics of Latin America (Irregular)	3
PLSC 3603	Scope and Methods of Political Science (Irregular)	3
PLSC 3803	International Organization (Sp)	3
PLSC 3813	International Law (Fa)	3
PLSC 3823	Theories of International Relations (Sp)	3
PLSC 3853	American Foreign Policy (Fa)	3
PLSC 3923H	Honors Colloquium (Irregular)	3
PLSC 394V	Readings in Political Science (Sp, Su, Fa)	1-3
PLSC 399VH	Honors Course (Irregular)	1-3
PLSC 4513	Creating Democracies (Even years, Fa)	3
PLSC 4563	Government and Politics of Russia (Even years, Sp)	3
PLSC 4573	Gender and Politics (Irregular)	3
PLSC 4593	Islam and Politics (Fa)	3
PLSC 4803	Foreign Policy Analysis (Irregular)	3
PLSC 4843	The Middle East in World Affairs (Sp)	3
PLSC 4873	Inter-American Politics (Irregular)	3

## Journalism Requirements

The journalism requirement may be satisfied by a minimum of 24 semester hours of JOUR courses, including JOUR 1023, JOUR 1033, and JOUR 3633. The remaining hours are filled from the following options.

Those wishing to emphasize Political Advertising and Promotion take the following courses:

### Advertising/Public Relations Concentration, Political Advertising and Promotion Track:

JOUR 3723	Advertising Principles (Sp, Fa)	3
JOUR 3743	Public Relations Principles (Sp, Fa)	3
JOUR 4043	Government and the Media (Fa)	3
Six hours of Advanced Journalism Courses.		6
Students should check course prerequisites.		

Those wishing to pursue the Public Affairs Reporting track can choose from either news/editorial or broadcast concentration:

### Broadcast Concentration, Public Affairs Reporting Track:

JOUR 2032	Broadcast News Reporting I (Sp, Fa)	3
& JOUR 2031L	and Broadcast News Reporting I Laboratory (Sp, Fa)	
JOUR 3072	Broadcast News Reporting II (Sp, Fa)	3
& JOUR 3071L	and Broadcast News Reporting II Laboratory (Sp, Fa)	
JOUR 4043	Government and the Media (Fa)	3
JOUR 4863	Television News Reporting I (Sp, Fa)	3
JOUR 4873	Television News Reporting II (Sp, Fa)	3

### News/Editorial Concentration, Public Affairs Reporting Track:

JOUR 2013	News Reporting I (Sp, Fa)	3
JOUR 3013	Editing (Sp, Fa)	3

JOUR 3023	News Reporting II (Sp, Fa)	3
	or JOUR 4503 Magazine Writing (Sp)	
	or JOUR 4553 Magazine Editing and Production I (Sp)	
JOUR 4043	Government and the Media (Fa)	3
One additional Journalism course		3

**Writing Requirement:** Students pursuing the journalism/political science combined major may satisfy the college writing requirement through either the Department of Journalism or through the Department of Political Science.

**In Journalism:** Successful completion of JOUR 4981 with a grade of "C" or better will satisfy the Fulbright College Writing Requirement.

**In Political Science:** The college writing requirement is fulfilled by submitting an acceptable research/analytical paper to the department for approval at least four weeks prior to graduation. The paper may be derived from completion of an honors essay (PLSC 499VH), a senior thesis (PLSC 498V), or some other advanced course in political science. The student is urged to consult with his or her faculty adviser no later than early in the first semester of the senior year.

### Journalism/Political Science B.A. Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) or MATH 2033 Mathematical Thought (Sp, Su, Fa) or MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) or MATH 2053 Finite Mathematics (Sp, Su, Fa) or MATH 2183 Mathematical Reasoning in a Quantitative World (Sp, Fa) or MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) or STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)	3-4	
JOUR 1023 Media and Society (Sp, Fa) or JOUR 1033 Fundamentals of Journalism (Sp, Su, Fa)	3	
Social science university/state core requirement (HIST recommended)	3	
1013 Elementary II world language	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3

MATH 2033 Mathematical Thought (Sp, Su, Fa) (if higher MATH still needed, else non-JOUR General Elective)		3-4
or MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) or MATH 2053 Finite Mathematics (Sp, Su, Fa) or MATH 2183 Mathematical Reasoning in a Quantitative World (Sp, Fa) or MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) or STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)		
PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)		3
JOUR 1033 Fundamentals of Journalism (Sp, Su, Fa) or JOUR 1023 Media and Society (Sp, Fa)		3
2003 Intermediate I world language		3
Year Total:	15	15

Second Year	Units	
	Fall	Spring
PLSC 2013 Introduction to Comparative Politics (Sp, Su, Fa)	3	
JOUR course from selected concentration <sup>†</sup>	3	
Science university/state core lecture w/ corequisite lab requirement	4	
Advanced general elective <sup>†</sup>	3	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3	
PLSC course from selected concentration <sup>††</sup>		3
JOUR course from selected concentration <sup>†</sup>		3
WLIT 1113 World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa) or WLIT 1123 World Literature II (ACTS Equivalency = ENGL 2123) (Sp, Su, Fa)		3
science university/state core lecture w/ corequisite lab requirement		4
General Elective		3
Year Total:	16	16

Third Year	Units	
	Fall	Spring
JOUR course from selected concentration <sup>††</sup>	3	
PLSC course from selected concentration <sup>††</sup>	3	
PHIL 2003 Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa) or PHIL 2103 Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)	3	
ECON 2143 Basic Economics: Theory and Practice (Sp, Su, Fa)	3	
General Elective	3	
JOUR 3633 Media Law (Sp, Fa) (or JOUR course from selected concentration) <sup>††</sup>		3

PLSC 4373 Political Communication (Even years, Sp) (or PLSC course from selected concentration) <sup>†‡</sup>	3	
3000+ HIST course <sup>†‡</sup>	3	
Cultural/Diversity course	3	
non-JOUR General Elective	3	
Year Total:	15	15

Fourth Year	Units	
	Fall	Spring
JOUR course from selected concentration <sup>†‡</sup>	3	
PLSC courses from selected concentration <sup>†‡</sup>	6	
General Elective	3	
General Electives	3	
PLSC course from selected concentration or PLSC 4373 Political Communication (as needed) <sup>†‡</sup>		3
JOUR course from selected concentration or †‡JOUR 3633 Media Law(as needed) <sup>†‡</sup>		3
General Electives (1 hour of non-JOUR electives might be needed to reach a minimum of 72 hours of non-JOUR coursework required by the major)		7
Year Total:	15	13

Total Units in Sequence: 120

## Requirements for a Minor in Journalism

18 hours to include the following:

JOUR 1023	Media and Society (Sp, Fa)	3
JOUR 1033	Fundamentals of Journalism (Sp, Su, Fa)	3
JOUR 2003	Writing for Today's Media (Sp, Fa)	3
JOUR 2053	Multimedia Journalism (Sp, Fa)	3
	or JOUR 2063 Media Technology (Su, Fa)	
JOUR 3633	Media Law (Sp, Fa)	3
JOUR 4333	Ethics in Journalism (Sp, Fa)	3
Total Hours		18

## Requirements for Honors in Journalism and Strategic Media

The Journalism and Strategic Media Honors Program gives undergraduates a chance to pursue journalistic research in the context of other academic disciplines. Honors candidates carry out independent study and research under the guidance of the journalism faculty and participate in honors classes in journalism and at least one other discipline. Outstanding student achievement will be recognized by the award of distinction "Journalism Scholar *Cum Laude*" at graduation. Higher degree distinctions are recommended only in cases of exceptional achievement and are based on the candidate's total honors studies program. To be considered for such distinctions, students must earn a minimum cumulative 3.50 grade-point average in journalism.

Journalism School and College Honors students must complete a minimum of 13 hours in honors credits and a thesis. These requirements are specified as follows:

Journalism School and College Honors students must:

1. Enter the program no later than the first semester of their junior year, and register for JOUR 498VH Honors Journalism Writing Requirement beginning with the first semester of the junior year,
2. Take at least 1 credit of JOUR 498VH every fall and spring semester of the junior and senior year,
3. Complete at least one journalism honors colloquium,
4. Complete the journalism honors core research course JOUR 4943H (offered every spring semester only),
5. Complete an approved honors colloquium in a second discipline,
6. Complete and orally defend an honors thesis based on honors courses of study, and
7. Earn an overall cumulative 3.50 grade-point average and a cumulative 3.50 grade-point average in journalism courses.

In addition, journalism majors pursuing college honors must also satisfy all requirements for the Fulbright College Honors Program and the Honors Core Curriculum for a Bachelor of Arts found elsewhere in this catalog.

More specific information on the requirements for honors in Journalism is available from the School of Journalism and Strategic Media Honors adviser.

**Journalism (B.A.) Teacher Licensure Requirements:** Students interested in obtaining teacher licensure may not obtain licensure in journalism alone. Licensure in another discipline must be obtained, and journalism may be added as an additional area of licensure. Please refer to the Secondary Education Requirements for Fulbright College Students (p. 186) or contact your departmental adviser or an adviser in the College of Education and Health Professions.

## Latin American and Latino Studies (LAST)

Kirstin Erickson  
Director of Studies  
330 Old Main  
479-575-5600  
<http://last.uark.edu/>

Students interested in Latin America and wishing to maximize their potential for academic, business, professional, or government careers related to the area, may earn a second major or a minor in Latin American and Latino studies together with a primary major in another discipline in Fulbright College. Advice on appropriate combinations of Latin American and Latino studies with other primary majors as well as individual approval of such combinations may be obtained from the Latin American and Latino studies program director. New students in this program must officially declare both majors and notify the Latin American and Latino studies program director. Degree checks must also be cleared with the program director. Freshmen and sophomores considering this program are advised to begin their study of Spanish or Portuguese as early as possible.

## Requirements for a Second Major in Latin American and Latino Studies

In addition to the requirements of a primary departmental major, students pursuing a second major in Latin American and Latino Studies must complete the following:

**Language Competence:** The student must complete SPAN 2013, PORT 2013, or equivalent. Provisions are available for recognition of

language skills gained by other means than formal course work taken at the University of Arkansas: See information under the entry in the department of world languages. Further functional work in Spanish or Portuguese as well as study and residence in a Latin American nation can serve to strengthen language competence and are encouraged.

**Colloquium:** The student must complete at least three hours in the interdepartmental colloquium, LAST 4003. The Colloquium may be repeated, with the adviser's approval, provided the topic is different.

**Electives:** The student must complete 18 hours, in addition to LAST 4003, in courses with specific Latin American or Latino content, or individualized study options under instructors teaching Latin American or Latino studies. Students choosing to take individualized readings or directed research courses must obtain the approval of the director of the area studies program. In the selection of the electives, the following conditions apply:

1. Courses must be selected from at least three different departments,
2. A maximum of nine hours may be submitted from courses taken in any one department.

The following courses and individualized study options may be taken in fulfillment of elective requirements:

#### Anthropology

ANTH 2013	Introduction to Latin American Studies (Irregular)	3
ANTH 3503	Power and Popular Protest in Latin America (Irregular)	3
ANTH 3553	Religion in Latin America (Irregular)	3
ANTH 4263	Identity and Culture in the U.S.-Mexico Borderlands (Irregular)	3

#### Art History

ARHS 4563	Pre-Columbian Art (Irregular)	3
ARHS 4563H	Honors Pre-Columbian Art (Irregular)	3
ARHS 4573	Artists of New Spain (Irregular)	3
ARHS 4573H	Honors Artists of New Spain (Irregular)	3

#### Economics

ECON 3843	Economic Development, Poverty & the Role of the World Bank and IMF in Low-Income Countries (Sp, Fa)	3
ECON 3853	Emerging Markets (Fa)	3

#### English

ENGL 3543	Topics in U.S. Latino/Latina Literature and Culture (Irregular) (English)	3
ENGL 4523	Studies in U.S. Latino/Latina Literature and Culture (Irregular)	3

#### History

HIST 3073	Women and Gender in Modern Latin American History (Irregular)	3
HIST 3193	The Making of the Modern Caribbean (Fa)	3
HIST 3203	Colonial Latin America (Odd years, Fa)	3
HIST 3213	Modern Latin America (Even years, Sp)	3
HIST 3283	U.S. Latinos and Latinas through Film (Sp)	3
HIST 3303	U.S. Immigration History (Sp)	3
HIST 3313	Latinos and Latinas in the U.S. (Fa)	3
HIST 3843	Special Topics in Latin American and Caribbean History (Irregular)	3

HIST 4173	The Latin American City (Irregular)	3
HIST 4233	The Atlantic World, 1400-1850 (Irregular)	3
HIST 4443	Frontiers and Borderlands in Colonial Latin America (Irregular)	3
HIST 4743	The Cold War in Latin America: Revolutions, Violence, and Politics (Irregular)	3
HIST 4783	History of Modern Mexico (Odd years, Sp)	3
HIST 4813	Africans and Slavery in Colonial Latin America (Irregular)	3
HIST 4823	Black Freedom in the Age of Emancipation (Sp)	3
HIST 7313	Reading Seminar in Latin American History (Irregular)	3
HIST 7323	Research Seminar in Latin American History (Irregular)	3

#### Latin American Studies

LAST 2013	Latin American Studies (Irregular)	3
LAST 399VH	Honors Thesis (Sp, Fa)	1-6
LAST 4003	Latin American Studies Colloquium (Sp)	3

#### Music

MUHS 4253	Special Topics in Music History (Sp, Fa) (Latin American Music)	3
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#### Political Science

PLSC 3263	Latino Politics (Fa)	3
PLSC 3573	Governments and Politics of Latin America (Irregular)	3
PLSC 4873	Inter-American Politics (Irregular)	3

#### Sociology

SOCI 3173	Latinos, Migration, and the U.S. South (Fa)	3
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#### Spanish

SPAN 3103	Cultural Readings (Sp, Fa)	3
SPAN 3113	Introduction to Literature (Sp, Fa)	3
SPAN 3123	Spanish for Heritage Speakers II (Irregular)	3
SPAN 4133	Survey of Spanish-American Literature I (Irregular)	3
SPAN 4193	Survey of Spanish-American Literature II (Irregular)	3
SPAN 4223	Latin American Civilization (Irregular)	3
SPAN 4243	Literature and Culture in the Hispanic United States (Irregular)	3
SPAN 4253	Latin American Cinema and Society (Irregular)	3
SPAN 4553	Latin America Today (Irregular)	3
SPAN 475V	Special Investigations (Sp, Fa)	1-6
SPAN 4883	Indigenous Literatures of Mesoamerica, the Andes and the Amazon (Irregular)	3
SPAN 5253	Colonial Literature and Culture (Irregular)	3
SPAN 5393	19th Century Spanish American Literature (Irregular)	3
SPAN 5403	Spanish American Theatre (Irregular)	3
SPAN 5463	20th Century Spanish American Literature (Irregular)	3
SPAN 5883	Indigenous Literatures (Irregular)	3

#### Requirements for a Minor in Latin American and Latino Studies:

Students wishing to minor in Latin American and Latino studies must fulfill the Colloquium (LAST 4003) and the language requirements described above, and must complete at least 12 hours from among the electives listed above. Electives must include courses from at least two different

academic departments. Included in the 12 hours may be 3 additional hours of LAST 4003, provided the topic is different.

#### Requirements for Honors in Latin American and Latino Studies:

The Honors Program in Latin American and Latino studies gives junior and senior students of high ability the opportunity to enroll in enriched courses and conduct independent research culminating in an honors thesis. In addition to satisfying the general Fulbright College requirements for graduation and the basic eligibility requirements for honors as established by the Honors Council, candidates for honors in Latin American and Latino studies must complete 12 hours of honors credit in partial satisfaction of requirements for the co-major. One to six of these may be thesis hours (LAST 399VH). The preferred method for satisfying the remaining hours is to enroll in the colloquium at least once for honors credit (LAST 4003H) and to take relevant honors colloquia or graduate courses (with permission) in one of the departments contributing to this interdisciplinary area study. The thesis committee shall include a representative from the major discipline (in the case of multiple majors, from the discipline contributing most significantly to the topic). Successful completion of these requirements will be recognized by the award of the distinction "Latin American and Latino Studies Scholar *Cum Laude*" at graduation. Higher degree distinctions are recommended only in exceptional cases and are based upon the whole of the candidate's program of honors studies.

## Mathematical Sciences (MASC)

### Faculty

**John R. Akeroyd**, Professor  
**Mark E. Arnold**, Associate Professor  
**Ariel Barton**, Assistant Professor  
**Dennis W. Brewer**, Professor  
**Avishek Chakraborty**, Assistant Professor  
**Matt Clay**, Associate Professor  
**Lynn L. Cleaveland**, Instructor  
**Brandon L. Crisel**, Instructor  
**Jyotishka Datta**, Assistant Professor  
**Matthew B. Day**, Associate Professor  
**Elizabeth B. Dickerson**, Lecturer  
**Shannon Wayne Dingman**, Associate Professor  
**William A. Feldman**, Professor  
**Samuel Mack Edwin Fincher**, Instructor  
**Jana M. Gastineau**, Instructor  
**Joshua M. Girshner**, Instructor  
**Chaim Goodman-Strauss**, Professor  
**Phil Harrington**, Associate Professor  
**Edmund O. Harriss**, Clinical Assistant Professor  
**Mark Johnson**, Professor  
**Deborah Korth**, Clinical Associate Professor  
**Daniel H. Luecking**, Professor  
**Paolo Mantero**, Assistant Professor  
**Lance E. Miller**, Assistant Professor  
**Wenbo Niu**, Assistant Professor  
**Giovanni Petris**, Professor  
**Heather Arielle Price**, Lecturer  
**Andrew Seth Raich**, Associate Professor  
**Yo'av Rieck**, Professor  
**John Ryan**, Professor  
**Boris M. Schein**, Distinguished Professor  
**Barbara C. Stephenson**, Instructor  
**Maria Tjani**, Associate Professor  
**Jeremy Van Horn-Morris**, Assistant Professor

**Janet C. Woodland**, Clinical Assistant Professor  
**Qingyang Zhang**, Assistant Professor

Mark Johnson  
 Chair of the Department  
 309 Science Engineering Building  
 479-575-3351  
[fulbright.uark.edu/departments/math](http://fulbright.uark.edu/departments/math)

The Department of Mathematical Sciences is committed to high-level mathematics instruction, preparing students for careers in secondary education, actuarial science and industry, and for entrance into graduate studies in mathematics and statistics. The department offers two majors, one leading to a Bachelor of Arts degree and a second leading to a Bachelor Science degree.

The Bachelor of Arts degree is often sought by future secondary education majors or by students wishing a broader exposure to the humanities. The Bachelor of Science degree is sought by students who intend to go on to graduate studies or who would like a deeper and broader understanding of higher mathematics. The Department of Mathematical Sciences is committed to the values of a broad, interdisciplinary education, highlighting the utility and value of the mathematics degree in a wide variety of careers and disciplines.

Enrollment in or completion of any course at the level of MATH 2554 or higher is required to enter into the mathematics program.

**Advising Note:** Students in Fulbright College of Arts and Sciences who, in the opinion of the Department of Mathematical Sciences, need additional work in the fundamentals are required to take MATH 0003. Using the student's record and their ACT or Mathematics Placement Test scores, a student's adviser will suggest enrollment in appropriate courses (a mathematics ACT score below 19 indicates placement in MATH 0003).

**Requirements for a Major in Mathematics, B.A. Degree:** Students must complete 120 degree credit hours to include the minimum University Core requirements (p. 81), the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), and the following course requirements. Bolded courses from the list below may be applied to portions of the University Core requirements.

Eight hours from the following science courses: 8

ANTH 1013 & ANTH 1011L	Introduction to Biological Anthropology (Sp, Su) and Introduction to Biological Anthropology Laboratory (Fa)
ASTR 2003 & ASTR 2001L	Survey of the Universe (ACTS Equivalency = PHSC 1204 Lecture) (Sp, Su, Fa) and Survey of the Universe Laboratory (ACTS Equivalency = PHSC 1204 Lab) (Sp, Su, Fa)
BIOL 1543 & BIOL 1541L	Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)
BIOL 1603 & BIOL 1601L	Principles of Zoology (ACTS Equivalency = BIOL 1054 Lecture) (Su, Fa) and Principles of Zoology Laboratory (ACTS Equivalency = BIOL 1054 Lab) (Su, Fa)
BIOL 1613 & BIOL 1611L	Plant Biology (ACTS Equivalency = BIOL 1034 Lecture) (Sp, Su) and Plant Biology Laboratory (ACTS Equivalency = BIOL 1034 Lab) (Sp, Su)

BIOL 2013 & BIOL 2011L	General Microbiology (ACTS Equivalency = BIOL 2004 Lecture) (Sp, Su, Fa) and General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa)	
CHEM 1103 & CHEM 1101L	University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) and University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)	
CHEM 1123 & CHEM 1121L	University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) and University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)	
GEOS 1113 & GEOS 1111L	General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa) and General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)	
GEOS 1133 & GEOS 1131L	Earth Science (ACTS Equivalency = GEOL 1124 Lecture) (Sp, Fa) and Earth Science Laboratory (ACTS Equivalency = GEOL 1124 Lab) (Sp, Fa)	
PHYS 2054	University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa)	
PHYS 2074	University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa)	

An approved course with substantial programming experience, typically satisfied by CSCE 2004. Other courses may be applied towards this requirement with prior departmental approval. 3-4

**Completion of a minor other than in Mathematics or Statistics, completion of the UAteach curriculum, completion of an additional major or completion of the Four-Year Fulbright Honors Core for a Bachelor of Arts. Hours required will vary.** 15-30+

#### Major Course Requirements

MATH 2574	Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa) (MATH 2554 and MATH 2564 are prerequisites)	4
MATH 2803	Transition to Advanced Mathematics (Sp, Fa)	3
MATH 3093	Abstract Linear Algebra (Sp, Fa)	3
MATH 3113	Introduction to Abstract Algebra I (Sp, Fa)	3
MATH 3513	Elementary Analysis (Sp, Fa)	3
MATH 4933	Mathematics Major Seminar (Sp) ( )	3

Twelve semester hours of courses in mathematics selected from MATH 2584 or MATH and STAT courses numbered at the 3000-level or higher. 12

The completion of a senior writing project under the direction of a faculty member. This is typically carried out in MATH 4933, or is satisfied by an honors thesis.

It is recommended that MATH 2803 be taken as early as possible in the program.

## Mathematics B.A. Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

	First Year	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) <sup>1</sup>	4	
Fine Arts or humanities University/state core requirement	3	
Social Science University/State Core requirement	3	
General Elective or coursework to be applied towards minor (as needed)	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa) <sup>1</sup>		4
MATH 2803 Transition to Advanced Mathematics (Sp, Fa) <sup>1</sup>		3
General elective or coursework to be applied towards minor (as needed)		4
Year Total:	16	14

	Second Year	
	Fall	Spring
MATH 2574 Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa) <sup>1</sup>	4	
MATH 3093 Abstract Linear Algebra (Sp, Fa) <sup>1,2</sup>	3	
Social science University/State Core requirement	3	
U.S. History University/State Core requirement	3	
General Elective or coursework to be applied towards minor (as needed)	3	
CSCE 2004 Programming Foundations I (Sp, Fa)		4
MATH/STAT Elective above 3000 level <sup>1,2</sup>		3
Science University/State Core Lecture with Corequisite Lab requirement		4
Humanities or fine arts University/State Core requirement (as needed)		3
Year Total:	16	14

	Third Year	
	Fall	Spring
MATH 3113 Introduction to Abstract Algebra I (Sp, Fa) <sup>1,2</sup>	3	
Social Science University/State Core requirement	3	
Science University/State Core Lecture with Corequisite Lab requirement	4	
General Electives or coursework to be applied towards minor (as needed)	6	
MATH 3513 Elementary Analysis (Sp, Fa) <sup>1,2</sup>		3
MATH/STAT Elective above 3000 Level <sup>1,2</sup>		3
General Electives or coursework to be applied towards minor (as needed)		9
Year Total:	16	15

Fourth Year	Units	
	Fall	Spring
MATH/STAT Elective Above 3000 level <sup>1,2</sup>	6	
General Elective or coursework to be applied towards minor (as needed)	3	
3000-4000 Level Electives <sup>1</sup>	6	
MATH 4933 Mathematics Major Seminar (Sp) <sup>1,2</sup>		3
MATH/STAT Elective Above 3000 Level <sup>1,2</sup>		3
General Electives As Needed		8
Year Total:	15	14
Total Units in Sequence:		120

<sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations (p. 183).

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations (p. 183).

#### Requirements for a Major in Mathematics, B.S. Degree:

Students must complete 120 degree credit hours to include the minimum University Core requirements (p. 81), the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), and the following liberal arts and major course requirements. Bolded courses from the list below may be applied to portions of the University Core requirements.

Eight total hours from one of the following natural science sequences: 8

#### Biology:

**BIOL 1543 & BIOL 1541L** Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)

and choose one of the following:

**BIOL 1603 & BIOL 1601L** Principles of Zoology (ACTS Equivalency = BIOL 1054 Lecture) (Su, Fa) and Principles of Zoology Laboratory (ACTS Equivalency = BIOL 1054 Lab) (Su, Fa)

**BIOL 1613 & BIOL 1611L** Plant Biology (ACTS Equivalency = BIOL 1034 Lecture) (Sp, Su) and Plant Biology Laboratory (ACTS Equivalency = BIOL 1034 Lab) (Sp, Su)

**BIOL 2013 & BIOL 2011L** General Microbiology (ACTS Equivalency = BIOL 2004 Lecture) (Sp, Su, Fa) and General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa)

#### Chemistry:

**CHEM 1103 & CHEM 1101L** University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) and University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)

and

**CHEM 1123 & CHEM 1121L** University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) and University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)

#### Geology:

**GEOS 1113 & GEOS 1111L** General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa) and General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)

and

**GEOS 1133 & GEOS 1131L** Earth Science (ACTS Equivalency = GEOL 1124 Lecture) (Sp, Fa) and Earth Science Laboratory (ACTS Equivalency = GEOL 1124 Lab) (Sp, Fa)

#### Physics:

**PHYS 2054** University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa)

and

**PHYS 2074** University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa)

Completion of eight additional hours at the 3000-level or higher not in Mathematics or Statistics chosen with department approval, completion of the UAteach curriculum, or completion of the Fulbright Four Year Honors Core for a Bachelor of Science degree. (Hours required will vary.) 8-30+

As a part of the requirements for a B.S. degree with a major in mathematics, the student must also complete the following 27 hours:

<b>MATH 2574</b>	Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa)	4
<b>MATH 2584</b>	Elementary Differential Equations (Sp, Su, Fa)	4
<b>MATH 2803</b>	Transition to Advanced Mathematics (Sp, Fa)	3
<b>MATH 3093</b>	Abstract Linear Algebra (Sp, Fa)	3
<b>MATH 3113</b>	Introduction to Abstract Algebra I (Sp, Fa)	3
<b>MATH 4513</b>	Advanced Calculus I (Sp, Fa)	3
<b>MATH 4933</b>	Mathematics Major Seminar (Sp)	3
<b>CSCE 2004</b>	Programming Foundations I (Sp, Fa)	4

And the completion of a senior writing project under the direction of a faculty member.<sup>1</sup> 3

It is recommended that MATH 2803 be taken as early as possible in the program.

<sup>1</sup> This is typically carried out in MATH 4933 or satisfied with an honors senior thesis.

### Concentration 1 (Applied)

A program for the student who wishes to prepare for either applied work in mathematics or graduate work in some field other than mathematics or statistics. Requirements:

<b>STAT 3013</b>	Introduction to Probability (Sp, Su, Fa) or STAT 5103 Introduction to Probability Theory (Fa)	3
<b>MATH 4423</b>	Introduction to Partial Differential Equations (Sp, Su, Fa)	3
<b>MATH 4353</b>	Numerical Linear Algebra (Sp)	3
<b>MATH 4363</b>	Numerical Analysis (Fa)	3
Two MATH or STAT electives numbered 3000 or higher (students may also take CSCE 4133)		6

Total Hours 18

## Mathematics, B.S., Concentration 1 (Applied) Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program.

Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) <sup>1</sup>	4	
US History requirement	3	
Social Science University/State Core requirement	3	
General elective or coursework, as needed	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa) <sup>1</sup>		4
MATH 2803 Transition to Advanced Mathematics (Sp, Fa)		3
Science University/State Core lecture with corequisite lab requirement		4
Year Total:	16	14

Second Year	Units	
	Fall	Spring
MATH 2574 Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa) <sup>1</sup>	4	
CSCE 2004 Programming Foundations I (Sp, Fa) <sup>1</sup>	4	
Social Science University/State Core requirement	3	
Science University/State Core lecture with corequisite lab requirement	4	
MATH 2584 Elementary Differential Equations (Sp, Su, Fa) <sup>1,2</sup>		4
MATH 3093 Abstract Linear Algebra (Sp, Fa) <sup>1,2</sup>		3
Social Science University/State Core requirement		3
Fine arts or humanities University/State core requirement, as needed		3
General Elective or coursework, as needed		3
Year Total:	15	16

Third Year	Units	
	Fall	Spring
MATH 3113 Introduction to Abstract Algebra I (Sp, Fa) <sup>1,2</sup>	3	
STAT 3013 Introduction to Probability (Sp, Su, Fa) <sup>1,2</sup>	3	
CSCE 2014 Programming Foundations II (Sp, Fa)	4	
General Electives or coursework, as needed	4	

MATH 4423 Introduction to Partial Differential Equations (Sp, Su, Fa) <sup>1,2</sup>	3
MATH 4353 Numerical Linear Algebra (Sp) <sup>1,2</sup>	3
Humanities or fine arts University/State Core requirement, as needed	3
General Electives or coursework, as needed	6
Year Total:	14

Fourth Year	Units	
	Fall	Spring
MATH 4513 Advanced Calculus I (Sp, Fa) <sup>1,2</sup>	3	
MATH 4363 Numerical Analysis (Fa) <sup>1,2</sup>	3	
MATH or STAT Electives numbered 3000 or higher, or CSCE 4133	6	
General Electives or coursework, as needed	3	
MATH 4933 Mathematics Major Seminar (Sp) <sup>1,2</sup>		3
General Electives or coursework, as needed to complete 120 degree credit hours		12
Year Total:	15	15

Total Units in Sequence: 120

<sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations (p. 183).

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations (p. 183).

### Requirements for a Major in Mathematics, B.S. Degree:

Students must complete 120 degree credit hours to include the minimum University Core requirements (p. 81), the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), and the following liberal arts and major course requirements. Bolded courses from the list below may be applied to portions of the University Core requirements.

Eight total hours from one of the following natural science sequences: 8

#### Biology:

**BIOL 1543** Principles of Biology (ACTS Equivalency = BIOL & BIOL 1541L 1014 Lecture) (Sp, Su, Fa)  
and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)

and choose one of the following:

**BIOL 1603** Principles of Zoology (ACTS Equivalency = BIOL & BIOL 1601L 1054 Lecture) (Su, Fa)  
and Principles of Zoology Laboratory (ACTS Equivalency = BIOL 1054 Lab) (Su, Fa)

**BIOL 1613** Plant Biology (ACTS Equivalency = BIOL 1034 & BIOL 1611L Lecture) (Sp, Su)  
and Plant Biology Laboratory (ACTS Equivalency = BIOL 1034 Lab) (Sp, Su)

**BIOL 2013** General Microbiology (ACTS Equivalency = BIOL & BIOL 2011L 2004 Lecture) (Sp, Su, Fa)  
and General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa)

#### Chemistry:



CHEM 1103 University Chemistry I (ACTS Equivalency = & CHEM 1101LCHEM 1414 Lecture) (Su, Fa)  
and University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)

and

CHEM 1123 University Chemistry II (ACTS Equivalency = & CHEM 1121LCHEM 1424 Lecture) (Sp, Su, Fa)  
and University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)

#### Geology:

GEOS 1113 General Geology (ACTS Equivalency = GEOL & GEOS 1111L1114 Lecture) (Sp, Su, Fa)  
and General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)

and

GEOS 1133 Earth Science (ACTS Equivalency = GEOL 1124 & GEOS 1131LLecture) (Sp, Fa)  
and Earth Science Laboratory (ACTS Equivalency = GEOL 1124 Lab) (Sp, Fa)

#### Physics:

PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa)

and

PHYS 2074 University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa)

Completion of eight additional hours at the 3000-level or higher not in Mathematics or Statistics chosen with department approval, completion of the UAteach curriculum, or completion of the Fulbright Four Year Honors Core for a Bachelor of Science degree. (Hours required will vary.)

8-30+

As a part of the requirements for a B.S. degree with a major in mathematics, the student must also complete the following 27 hours:

MATH 2574	Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa)	4
MATH 2584	Elementary Differential Equations (Sp, Su, Fa)	4
MATH 2803	Transition to Advanced Mathematics (Sp, Fa)	3
MATH 3093	Abstract Linear Algebra (Sp, Fa)	3
MATH 3113	Introduction to Abstract Algebra I (Sp, Fa)	3
MATH 4513	Advanced Calculus I (Sp, Fa)	3
MATH 4933	Mathematics Major Seminar (Sp)	3
CSCE 2004	Programming Foundations I (Sp, Fa)	4

And the completion of a senior writing project under the direction of a faculty member.<sup>1</sup>

It is recommended that MATH 2803 be taken as early as possible in the program.

<sup>1</sup> This is typically carried out in MATH 4933 or satisfied with an honors senior thesis.

### Concentration 2 (Pure)

A program for the student who is seeking a broad background in mathematics or who wishes to study mathematics at the graduate level. Requirements:

MATH 4113	Introduction to Abstract Algebra II (Sp)	3
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or MATH 4523 Advanced Calculus II (Sp)

MATH 4443	Complex Variables (Fa)	3
Four MATH or STAT electives numbered 3000 or higher (students may also take CSCE 4133).		12
Total Hours		18

### Mathematics, B.S., Concentration 2 (Pure) Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program.

Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) <sup>1</sup>	4	
Science University/State Core lecture with corequisite lab requirement	4	
Social Science University/State Core requirement	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa) <sup>1</sup>		4
MATH 2803 Transition to Advanced Mathematics (Sp, Fa) <sup>1</sup>		3
Science University/State Core lecture with corequisite lab requirement		4
Year Total:	14	14

Second Year	Units	
	Fall	Spring
MATH 2574 Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa) <sup>1</sup>	4	
MATH 3093 Abstract Linear Algebra (Sp, Fa) <sup>1,2</sup>	3	
U.S. History University/State Core requirement	3	
Fine arts or humanities University/State Core requirement, as needed	3	
General elective or coursework, as needed	3	
MATH 2584 Elementary Differential Equations (Sp, Su, Fa) <sup>1,2</sup>		4
MATH or STAT Elective numbered 3000 or higher <sup>1,2</sup>		3
CSCE 2004 Programming Foundations I (Sp, Fa)		4
General elective or coursework, as needed		4
Year Total:	16	15

Third Year	Units	
	Fall	Spring
MATH 3113 Introduction to Abstract Algebra I (Sp, Fa) <sup>1,2</sup>	3	
MATH or STAT Elective numbered 3000 or higher <sup>1,2</sup>	3	
Humanities or fine arts University/State Core requirement, as needed	3	
General Electives or coursework, as needed	6	
MATH 4113 Introduction to Abstract Algebra II (Sp) (Or MATH/STAT 3000+ if taking MATH 4523) <sup>1,2</sup>		3
MATH or STAT Elective numbered 3000 or higher <sup>1,2</sup>		3
Social Science University/State Core requirement		3
General Electives or coursework, as needed		6
Year Total:	15	15

Fourth Year	Units	
	Fall	Spring
MATH 4443 Complex Variables (Fa) <sup>1,2</sup>	3	
MATH 4513 Advanced Calculus I (Sp, Fa) <sup>1,2</sup>	3	
Social Science University/State Core requirement	3	
General Electives or coursework, as needed	6	
MATH 4933 Mathematics Major Seminar (Sp) <sup>1,2</sup>		3
MATH 4523 Advanced Calculus II (Sp) (Or MATH/STAT 3000+ if taking MATH 4113) <sup>1,2</sup>		3
General Electives or coursework, as needed to meet 120-hour requirement		10
Year Total:	15	16

Total Units in Sequence: 120

<sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations (p. 183) of this chapter.

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations (p. 183) of this chapter.

#### Requirements for a Major in Mathematics, B.S. Degree:

Students must complete 120 degree credit hours to include the minimum University Core requirements (p. 81), the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), and the following liberal arts and major course requirements. Bolded courses from the list below may be applied to portions of the University Core requirements.

Eight total hours from one of the following natural science sequences: 8

#### Biology:

BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL & BIOL 1541L 1014 Lecture) (Sp, Su, Fa) and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)

and choose one of the following:

BIOL 1603 Principles of Zoology (ACTS Equivalency = BIOL & BIOL 1601L 1054 Lecture) (Su, Fa) and Principles of Zoology Laboratory (ACTS Equivalency = BIOL 1054 Lab) (Su, Fa)

BIOL 1613 Plant Biology (ACTS Equivalency = BIOL 1034 & BIOL 1611L Lecture) (Sp, Su) and Plant Biology Laboratory (ACTS Equivalency = BIOL 1034 Lab) (Sp, Su)

BIOL 2013 General Microbiology (ACTS Equivalency = BIOL & BIOL 2011L 2004 Lecture) (Sp, Su, Fa) and General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa)

#### Chemistry:

CHEM 1103 University Chemistry I (ACTS Equivalency = & CHEM 1101LCHEM 1414 Lecture) (Su, Fa) and University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)

and

CHEM 1123 University Chemistry II (ACTS Equivalency = & CHEM 1121LCHEM 1424 Lecture) (Sp, Su, Fa) and University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)

#### Geology:

GEOS 1113 General Geology (ACTS Equivalency = GEOL & GEOS 1111L1114 Lecture) (Sp, Su, Fa) and General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)

and

GEOS 1133 Earth Science (ACTS Equivalency = GEOL 1124 & GEOS 1131LLecture) (Sp, Fa) and Earth Science Laboratory (ACTS Equivalency = GEOL 1124 Lab) (Sp, Fa)

#### Physics:

PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa)

and

PHYS 2074 University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa)

Completion of eight additional hours at the 3000-level or higher not in Mathematics or Statistics chosen with department approval, completion of the UAteach curriculum, or completion of the Fulbright Four Year Honors Core for a Bachelor of Science degree. (Hours required will vary.) 8-30+

As a part of the requirements for a B.S. degree with a major in mathematics, the student must also complete the following 27 hours:

MATH 2574	Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa)	4
MATH 2584	Elementary Differential Equations (Sp, Su, Fa)	4
MATH 2803	Transition to Advanced Mathematics (Sp, Fa)	3
MATH 3093	Abstract Linear Algebra (Sp, Fa)	3
MATH 3113	Introduction to Abstract Algebra I (Sp, Fa)	3
MATH 4513	Advanced Calculus I (Sp, Fa)	3
MATH 4933	Mathematics Major Seminar (Sp)	3
CSCE 2004	Programming Foundations I (Sp, Fa)	4

And the completion of a senior writing project under the direction of a faculty member.<sup>1</sup> 3

It is recommended that MATH 2803 be taken as early as possible in the program.

<sup>1</sup> This is typically carried out in MATH 4933 or satisfied with an honors senior thesis.

### Concentration 3 (Statistics)

A program for the student who wishes to emphasize statistics or who intends to study statistics at the graduate level. Requirements:

MATH 4353	Numerical Linear Algebra (Sp)	3
STAT 3013	Introduction to Probability (Sp, Su, Fa)	3
or STAT 5103	Introduction to Probability Theory (Fa)	
STAT 4003	Statistical Methods (Sp, Fa)	3
STAT 4001L	Statistics Methods Laboratory (Sp, Fa)	1
or STAT 4101L	Introduction to R (Fa)	
STAT 4033	Nonparametric Statistical Methods (Sp, Su, Fa)	3
Two MATH or STAT	electives numbered 3000 or higher (students may also take CSCE 4133).	6
Strongly recommended electives in this program are STAT 5103 and STAT 5113.		

Total Hours 19

A 2.00 cumulative grade-point average on all work completed in the department of mathematical sciences will be required for graduation with a B.A. or B.S. degree.

### Mathematics, B.S., Concentration 3 (Statistics)

#### Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program.

Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) <sup>1</sup>	4	
Science University/State Core lecture with corequisite lab requirement	4	
Social Science University/State Core requirement	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa) <sup>1</sup>		4
MATH 2803 Transition to Advanced Mathematics (Sp, Fa) <sup>1</sup>		3
Science University/State Core lecture w/ corequisite lab requirement		4
Year Total:	14	14

Second Year	Units	
	Fall	Spring
MATH 2574 Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa) <sup>1</sup>	4	
MATH 3093 Abstract Linear Algebra (Sp, Fa) <sup>1,2</sup>	3	
CSCE 2004 Programming Foundations I (Sp, Fa)	4	
General elective or coursework, as needed	4	
MATH 2584 Elementary Differential Equations (Sp, Su, Fa) <sup>1,2</sup>		4
STAT 3013 Introduction to Probability (Sp, Su, Fa) <sup>1,2</sup>		3
U.S. History University/State Core requirement		3
Fine Arts or Humanities University/State Core requirement, as needed		3
General elective or coursework, as needed		3
Year Total:	15	16

Third Year	Units	
	Fall	Spring
MATH 3113 Introduction to Abstract Algebra I (Sp, Fa) <sup>1,2</sup>	3	
STAT 4001L Statistics Methods Laboratory (Sp, Fa)	1	
or STAT 4101L Introduction to R (Fa)		
STAT 4003 Statistical Methods (Sp, Fa) <sup>1,2</sup>	3	
Social Science University/State Core requirement	3	
General Electives or coursework, as needed	6	
MATH 4353 Numerical Linear Algebra (Sp) <sup>1,2</sup>		3
MATH or STAT Elective numbered 3000 or higher. <sup>1,2</sup>		3
Social Science University/State Core requirement		3
General Electives or coursework, as needed		6
Year Total:	16	15

Fourth Year	Units	
	Fall	Spring
MATH 4513 Advanced Calculus I (Sp, Fa) <sup>1,2</sup>	3	
STAT 4033 Nonparametric Statistical Methods (Sp, Su, Fa) <sup>1,2</sup>	3	
Humanities or Fine Arts University/State Core requirement, as needed	3	
General Electives or coursework to be applied towards minor, as needed	6	
MATH 4933 Mathematics Major Seminar (Sp) <sup>1,2</sup>		3
MATH or STAT Elective numbered 3000 or higher. <sup>1,2</sup>		3
General Electives or coursework, as needed to meet 120 hour requirement		9
Year Total:	15	15
Total Units in Sequence:		120

#### Requirements for a Minor in Mathematics:

MATH 2564	Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa)	4
MATH 2603	Discrete Mathematics (Sp, Su, Fa)	3
or MATH 2803	Transition to Advanced Mathematics (Sp, Fa)	
or MATH 4423	Introduction to Partial Differential Equations (Sp, Su, Fa)	
3 courses selected from the following:		9-12
MATH 2574	Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa)	
MATH 2584	Elementary Differential Equations (Sp, Su, Fa)	
STAT 3013	Introduction to Probability (Sp, Su, Fa)	
Any MATH Courses at the 3000-level or higher.		
Total Hours		16-19

**Requirements for a Minor in Statistics:**

MATH 2554	Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	4
12 hours of non-cross-listed courses in the statistics section of this catalog, including 9 hours in courses numbered 3000 and above.		12
Coursework used towards the mathematics major may not be applied towards a statistics minor.		

**Requirements for Departmental Honors in Mathematics:** The Departmental Honors Program in Mathematics is designed for the superior student and is intended to help the student develop a more comprehensive view of the nature of mathematics. The program provides a vehicle for the recognition of the achievements of work beyond the usual course of study and earns the student the distinction "Mathematics Scholar *Cum Laude*" at graduation. Higher degree distinctions are recommended only in truly exceptional cases and are based upon the whole of the candidate's program of honors studies.

**Graduation with honors:** The candidate must satisfy the requirements set forth by the Honors Council. The candidate must also obtain at least a 3.50 grade-point average in CSCE 2004 and all 2000-level or higher MATH/STAT courses required for the degree. In addition, a grade of "D" or "F" in any other course offered by the department disqualifies a student for honors.

Candidates must take 2-4 hours of MATH 499VH at least one semester before the student's graduating semester. This course will require significant progress toward an honors thesis to be presented and defended before the student's honors committee. The quality of this paper and its defense, along with the execution of the rest of the student's honors program and overall academic performance, will be used in determining the distinction between Honors and High Honors.

**Mathematics (B.A. or B.S.) Teacher Licensure Requirements:**

Please refer to the Secondary Education Requirements (p. 186) for Fulbright College Students. Students wishing to pursue licensure through the UAteach undergraduate curriculum should consult with a UAteach adviser, uteach@uark.edu.

Students wanting to teach mathematics in middle school should consult with a middle level adviser in the College of Education and Health Professions (p. 419).

## Medical Sciences and Dentistry

See under Combined Academic and Medical or Dental Degree (p. 183) and also the discussion of the pre-medical programs and the pre-dental program under the section on Health Related Professions (p. 186).

## Medieval and Renaissance Studies (MRST)

Joshua Byron Smith, Director  
 Timothy Nelson, Assistant Director  
 333 Kimpel Hall  
 479-575-4301

Medieval and Renaissance Studies website (<http://mrst.uark.edu>)

The Medieval and Renaissance studies program is administered by the Humanities program. This program offers a minor that encourages undergraduate students to pursue an interdisciplinary study of all aspects of the Middle Ages and Renaissance as a complement to their major field of study.

**Requirements for a Minor in Medieval and Renaissance Studies**

**(MRST):** (15-16 credit hours) Students must take MRST 2013 or HIST 1113 or HIST 1113H, or HUMN 1124H and complete at least 12 additional credit hours selected from the courses listed below. Other courses covering the chronological period between 500 C.E. and 1700 C.E. may also be accepted if approved by the program director or co-director. A maximum of 6 hours may be presented from courses taken in the student's designated major.

**Required Core Course**

Select one of the following: 3-4

- MRST 2013 Introduction to Medieval and Renaissance Studies (Even years, Fa)
- or HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)
- or HIST 1113H Honors Institutions and Ideas of World Civilizations I (Irregular)
- or HUMN 1124H Honors Equilibrium of Cultures 500-1600 (Sp)

**Twelve hours to be chosen from the following (a maximum of six hours may be presented from courses taken in the student's major department):** 12

- MRST 2013 Introduction to Medieval and Renaissance Studies (Even years, Fa) (Note: MRST 2013/2013H may only satisfy either the MRST core course requirement or 3 credits of the additional MRST-approved coursework requirement, but not both.)
- or MRST 2013H Honors Introduction to Medieval and Renaissance Studies (Even years, Fa)
- MRST 3013 Special Topics in Medieval Studies (Irregular)
- or MRST 301H Honors Special Topics in Medieval Studies (Irregular)
- MRST 3023 Special Topics in Early Modern Studies (Irregular)
- or MRST 3023H Honors Special Topics in Early Modern Studies (Irregular)
- MRST 4003 Medieval and Renaissance Studies Colloquium (Odd years, Sp)
- or MRST 4003H Honors Medieval and Renaissance Studies Colloquium (Odd years, Sp)

MRST 470V	Special Topics in Medieval and Renaissance Studies (Irregular)
or MRST 470VH	Honors Special Topics in Medieval and Renaissance Studies (Irregular)
ARHS 4843	Medieval Art (Irregular)
ARHS 4853	Italian Renaissance Art (Irregular)
ARHS 4863	Northern Renaissance Art (Irregular)
ARCH 2233	History of Architecture I (Fa)
ARCH 4023	Advanced Architectural Studies (Sp, Fa)
ENGL 3433	Introduction to Chaucer (Irregular)
ENGL 4303	Introduction to Shakespeare (Sp, Su, Fa)
LATN 5633	Medieval Latin (Irregular)
SPAN 5203	Medieval Spanish Literature (Irregular)
HIST 3033	Islamic Civilization (Irregular)
HIST 3513	History of China to 1644 (Fa)
HIST 4043	Late Antiquity and the Early Middle Ages (Even years, Fa)
HIST 4053	Late Middle Ages (Odd years, Sp)
HIST 4073	Renaissance and Reformation, 1300-1600 (Even years, Fa)
HIST 4163	Tudor-Stuart England, 1485-1714 (Even years, Sp)
HIST 4353	Middle East, 600-1250 (Even years, Fa)
HIST 4373	Mongol & Mamluk Middle East 1250-1520 (Even years, Sp)
HIST 4393	Early Modern Islamic Empires, 1300-1750 (Odd years, Sp)
HUMN 3923H	Honors Colloquium (Irregular) (when offered as an approved MRST course)
HUMN 425V	Colloquium (Irregular) (when offered as an approved MRST course)
MUHS 3703	History of Music to 1750 (Fa)
PHIL 4013	Platonism and Origin of Christian Theology (Irregular)
PHIL 4023	Medieval Philosophy (Irregular)
Total Hours	15-16

such as anthropology, economics, world languages, geography, history, journalism, and political science. New students entering the program are required to notify both the major adviser and the MEST director of their intention to participate. Freshmen and sophomores considering this program are advised to begin their study of a Middle East language as early as possible. Students may also earn a minor in Middle East studies.

**Requirements for a Second Major in MEST.** To attain a second major in MEST, the student is required to have a primary major in one of the following approved areas: anthropology, communication, economics (BA), French, geography, history, international relations, journalism, political science, sociology, or Spanish. Up to nine hours of courses in the primary major with Middle East content may be counted toward the MEST combined major with the permission of the MEST director.

**Total Hours Required:** (30 semester hours) Students must complete 3 hours in MEST 2013 Introduction to Middle East Studies (Fa), 3 hours in MEST 4003 Middle East Studies Colloquium (Sp), 6 hours of Arabic language beyond ARAB 2016, and 18 hours in additional MEST or MEST-approved core courses. MEST courses must be in at least two disciplines, with no fewer than 9 hours of MEST core courses in one discipline.

**Introduction to Middle East Studies:** (3 hours) Students must complete 3 hours of Introduction to Middle East Studies (MEST 2013).

**Middle East Studies Colloquium:** (3 hours) Students must complete at least 3 hours in MEST 4003 Middle East Studies Colloquium (Sp). The Colloquium may be repeated with a change of subject for a maximum of 6 credits.

**Arabic Requirement:** (6 hours of MEST credit) Students must complete 6 hours of Arabic language beyond (ARAB 2013 or ARAB 2016). Courses approved by the MEST director and completed in a summer intensive Arabic program or study-abroad program in an Arabic speaking country may substitute for all or part of this requirement.

**MEST Core Courses:** To count for MEST credit, courses not on the following list must be approved by the student's MEST major adviser and the MEST director. Individualized readings, directed research courses, or courses in a second Middle Eastern language may count as MEST core courses with the approval of the MEST major adviser and MEST director.

#### MEST Core Courses

ANTH 3123	The Anthropology of Religion (Sp)	3
ANTH 3033	Egyptology (Irregular)	3
ANTH 4123	Ancient Middle East (Irregular)	3
ANTH 4256	Archeological Field Session (Su)	6
ANTH 4513	African Religions: Gods, Witches, Ancestors (Irregular)	3
ANTH 4533	Middle East Cultures (Sp)	3
ANTH 4913	Topics of the Middle East (Irregular)	3
GEOS 2003	World Regional Geography (ACTS Equivalency = GEOG 2103) (Sp, Fa)	3
GEOS 4043	Geography of the Middle East (Fa)	3
GEOS 410V	Special Problems in Geosciences (Fa)	1-6
HIST 3033	Islamic Civilization (Irregular)	3
HIST 3043	History of the Modern Middle East (Irregular)	3
HIST 3473	Palestine and Israel in Modern Times (Irregular)	3
HIST 3923H	Honors Colloquium (Irregular) (approved selected topics)	3
HIST 4353	Middle East, 600-1250 (Even years, Fa)	3

## Middle East Studies (MEST)

### Faculty

**M. Sarwar Alam**, Instructor

**Spencer L. Allen**, Lecturer

**Christopher C. Angel**, Instructor

**Najib Ghadbian**, Associate Professor

**Paula Marie Haydar**, Clinical Assistant Professor

**Thomas R. Paradise**, University Professor

Joel Gordon

Director, King Fahd Center for Middle East Studies

202 Old Main

479-575-4157

<http://mest.uark.edu>

[mest@uark.edu](mailto:mest@uark.edu)

Students interested in the Middle East and North Africa and wishing to maximize their potential for academic, business, professional, or government careers related to the area, may earn a second major in Middle East studies with a required primary major in an approved area

HIST 4373	Mongol & Mamluk Middle East 1250-1520 (Even years, Sp)	3
HIST 4393	Early Modern Islamic Empires, 1300-1750 (Odd years, Sp)	3
HIST 4413	New Women in the Middle East (Irregular)	3
HIST 4433	Social and Cultural History of the Modern Middle East (Irregular)	3
HUMN 2213	Introduction to World Religions (Sp)	3
HUMN 425V	Colloquium (Irregular) (approved selected topics)	1-6
MEST 2003	Introduction to Islam (Irregular)	3
MEST 2013	Introduction to Middle East Studies (Fa)	3
MEST 4003	Middle East Studies Colloquium (Sp)	3
MEST 4003H	Honors Middle East Studies Honors Colloquium (Sp)	3
PLSC 3523	Politics of the Middle East (Fa)	3
PLSC 3813	International Law (Fa)	3
PLSC 4593	Islam and Politics (Fa)	3
PLSC 4843	The Middle East in World Affairs (Sp)	3
WLIT 3983	Special Studies (Irregular) (approved selected topics)	3

## Requirements for a Minor in Middle East Studies:

Total Hours Required: (18 semester hours)

Students must complete MEST 2013 Introduction to Middle East Studies (Fa) (3 hours), MEST 4003 Middle East Studies Colloquium (Sp), 6 hours of Arabic beyond ARAB 2016, and a minimum of 6 additional hours of MEST core courses.

**Introduction to Middle East Studies:** (3 hrs) Students must complete three hours in the MEST 2013 Introduction to Middle East Studies (Fa).

**Middle East Studies Colloquium:** (3 hours) Students must complete three hours in MEST 4003 Middle East Studies Colloquium (Sp).

**Arabic Requirement:** (6 hours of MEST credit) Students must complete 6 hours of Arabic language beyond the Fulbright College language proficiency requirement (ARAB 2013). Courses approved by the MEST director and completed in a summer intensive Arabic program or study-abroad program in an Arabic speaking country may substitute for all or part of this requirement.

**MEST Core Courses:** (6 hours) Students must complete an additional 6 hours of MEST core courses supervised by faculty participating in the program. Students choosing to take individualized reading or directed research courses as a part of the minor must obtain the approval of the MEST director and their major adviser.

## Requirements for Honors in MEST:

The Honors Program in Middle East Studies gives junior and senior students of high ability the opportunity to enroll in enriched courses and conduct independent research culminating in an honors thesis. In addition to satisfying the general Fulbright College requirements for graduation and the basic eligibility requirements for honors as established by the Honors Council, candidates for honors in Middle East Studies must complete 12 hours of honors credit in partial satisfaction of requirements for the co-major. One to 6 of these hours may be thesis hours (MEST 399V).

The preferred method for satisfying the remaining hours is to enroll in the colloquium at least once for honors credit (MEST 4003H) and to take relevant honors colloquia or graduate courses (with permission) in one of the departments contributing to this interdisciplinary area study. The thesis committee shall include a representative from the major discipline (in the case of multiple majors, from the discipline contributing most significantly to the topic). Successful completion of these requirements will be recognized by the award of the distinction "Middle East Studies Scholar *Cum Laude*" at graduation. Higher degree distinctions are recommended only in exceptional cases and are based upon the whole of the candidate's program of honors studies.

## Music (MUSC)

### Faculty

**Daniel Abrahams**, Assistant Professor  
**Stephen E. Caldwell**, Assistant Professor  
**Benjamin A. Chamberlain**, Instructor  
**Nophachai Cholthitchanta**, Associate Professor  
**Theresa R. Delaplain**, Instructor  
**Jamal Duncan**, Instructor  
**David G. Gerstein**, Instructor  
**Alan R. Gosman**, Associate Professor  
**Alice Hammel**, Instructor  
**Kimberly Hannon Teal**, Assistant Professor  
**Benjamin Harris**, Instructor  
**Jacob Herzog**, Instructor  
**Er-Gene Kahng**, Associate Professor  
**Tomoko Kashiwagi**, Instructor  
**Chris Knighten**, Associate Professor  
**Janet Whitman Knighten**, Assistant Professor  
**Benjamin Lorenzo**, Assistant Professor  
**Christopher J. MacRae**, Instructor  
**Ronda M. Mains**, Professor  
**David Malis**, Assistant Professor  
**Elizabeth Hellmuth Margulis**, Professor  
**Jura Margulis**, Professor  
**Matthew W. Mihalka**, Instructor  
**Dale D. Misenhelter**, Professor  
**Cory Mixdorf**, Assistant Professor  
**Stan Morris**, Instructor  
**Robert K. Mueller**, Professor  
**Jeffrey A. Murdock**, Assistant Professor  
**Kyungseu Na**, Instructor  
**Catalina Ortega**, Instructor  
**Miroslava Saifur Panayotova**, Instructor  
**Joon Park**, Assistant Professor  
**Moon Park**, Assistant Professor  
**Benjamin J. Pierce**, Professor  
**Chal Ragsdale**, University Professor  
**Nastassja Riley**, Lecturer  
**Richard J. Rulli**, Associate Professor  
**Henry S. Runkles**, Lecturer  
**Rick Salonen**, Instructor  
**Kimberly Teal**, Assistant Professor  
**Timothy F. Thompson**, Professor  
**Eric Troiano**, Instructor  
**Lia Uribe Southern**, Assistant Professor  
**W. Dale Warren**, Professor

Ronda Mains  
 Chair of the Department

201 Music Building  
479-575-4701  
<http://music.uark.edu>  
[music@uark.edu](mailto:music@uark.edu)

The Department of Music offers two music majors, one leading to a Bachelor of Music and a second leading to a Bachelor of Arts. The department also offers a minor in music. The Bachelor of Music offers the choice of 11 concentrations as well as a program with elective studies in business.

The music department strives to enrich and inspire the human mind and spirit through the pursuit of excellence in creative activity, research, teaching, and service. The Department of Music is an accredited institutional member of the National Association of Schools of Music. The requirements for entrance and for graduation as set forth in this catalog are in accordance with the published regulations of that Association.

## General Music Requirements

To achieve junior standing in the curriculum leading to the Bachelor of Arts degree with a major in music and the Bachelor of Music degree, the student must have completed 56 hours and must have maintained a cumulative grade average of "C" in all music courses, with the exception of ensemble, by the end of the fourth semester. The student must also have earned a grade average of not less than "B" in the major applied field of study during the sophomore year. This standing is prerequisite to all 3000-level courses and above in music.

Pursuant to enrolling in applied music courses, all music majors must audition for the music department faculty. Private study of the primary voice/instrument for music majors requires the successful completion of an audition for the instructor and consent of the Department of Music. Music majors are expected to own their own instruments. Some instruments are provided for student use only in certain circumstances and at the discretion of the music department.

All music majors, with exceptions noted below, are required to enroll in MUEN 1411 Men's Chorus I (Sp, Fa) or MUEN 1591 Women's Chorus I (Sp, Fa) during the first year of residence. Exceptions to the requirement would include all students pursuing the Bachelor of Music (B.M.) degree for whom voice or piano is the major applied area.

**Piano Proficiency Requirement:** Students pursuing a Bachelor of Music degree must pass a piano proficiency examination upon entering the University of Arkansas or must register in piano classes until this requirement is met. Students with previous piano training may take a piano placement exam and be advised to omit one or more semesters of Class Piano (MUAC 1221, MUAC 1231, MUAC 2221). Students will receive college credit for the omitted class piano courses if they validate their higher placement by passing an advanced piano course with a grade of "B" or better.

On the basis of prior study in music, a student may be advised to omit one or more semesters of Aural Perception (MUTH 1621, MUTH 1631, MUTH 2621). Students will receive college credit for the omitted aural perception courses when they have validated their higher placement by passing the course in which they are placed with a grade of "B" or better.

**Writing Requirement:** Students can meet the Fulbright College writing requirement by submission of a satisfactory term paper for MUED 4112 (music education majors) or MUHS 4253 (all other music majors).

## Requirements for a Major in Music leading to a Bachelor of Music Degree

In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the University Core requirements.

Students must complete:

A World Language Course at the 1013 Elementary II Level. 3  
Bachelor of Music Degree students pursuing the Voice Performance Concentration must complete this language requirement in either French, German, or Italian.

HIST 1113	Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)	3
HIST 1123	Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)	3
MUSY 2003	Music in World Cultures (Sp, Fa)	3
or WLIT 1113	World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)	3

And all of the specific requirements for one of the following concentrations.<sup>1</sup>

<sup>1</sup> All students must complete two semesters of MUAP 110V with a grade of "A" or "B" and two semesters of MUAP 210V with a grade of "A" or "B" before enrolling in MUAP 310V.

### Emily J. and J.W. McAllister Piano Performance Concentration

MLIT 1013	Music and Society (Sp, Fa)	3
MUTH 1603	Music Theory I (Sp)	3
MUTH 1621	Aural Perception I (Sp)	1
MUTH 1631	Aural Perception II (Fa)	1
MUTH 2603	Music Theory II (Fa)	3
MUTH 2621	Aural Perception III (Sp)	1
MUTH 2631	Aural Perception IV (Fa)	1

Select two of the following 6

MUTH 3603	18th Century Counterpoint (Sp)	
MUTH 3623	Music Perception (Even years, Sp)	
MUTH 3723	Jazz Analysis (Irregular)	
MUTH 477V	Special Topics in Music Theory (Irregular)	
MUTH 3613	Form and 20th Century Techniques (Fa)	3
MUTH 4322	Score Reading (Fa)	2
MUAC 2112	Music Technology (Sp, Su, Fa)	2
MUHS 3703	History of Music to 1750 (Fa)	3
MUHS 3713	History of Music from 1750 to Present (Sp)	3
MUHS 4253	Special Topics in Music History (Sp, Fa)	3
MUHS 4803	Survey of Keyboard Literature I (Even years, Fa)	3
MUHS 4813	Survey of Keyboard Literature II (Odd years, Sp)	3

### Applied Piano 28

MUAP 110V	Applied Major Voice/Instrument I (Sp, Fa) (6 Hours)	
MUAP 210V	Applied Major Voice/Instrument II (Sp, Fa) (6 Hours)	
MUAP 310V	Applied Major Voice/Instrument III (Sp, Fa) (7 Hours)	

MUAP 3201	Applied Recital I (Sp, Fa)	
MUAP 410V	Applied Major Voice/Instrument IV (Sp, Fa) (7 Hours)	
MUAP 4201	Applied Recital II (Sp, Fa)	
Applied Secondary MUAP or MUAC		2
MUPD 3801	Conducting I (Fa)	1
MUPD 4863	Piano Pedagogy (Even years, Sp)	3
Select two of the following:		2
MUEN 1411	Men's Chorus I (Sp, Fa)	
MUEN 2411	Men's Chorus II (Sp, Fa)	
MUEN 3411	Men's Chorus III (Sp, Fa)	
MUEN 4411	Men's Chorus IV (Sp, Fa)	
MUEN 1591	Women's Chorus I (Sp, Fa)	
MUEN 2591	Women's Chorus II (Sp, Fa)	
MUEN 3591	Women's Chorus III (Sp, Fa)	
MUEN 4591	Women's Chorus IV (Sp, Fa)	
Select 6 hours from the following:		6
MUEN 1541	Accompanying I (Sp, Fa)	
MUEN 2541	Accompanying II (Sp, Fa)	
MUEN 3541	Accompanying III (Sp, Fa)	
MUEN 4541	Accompanying IV (Sp, Fa)	
MUEN 4841	Accompanying V (Sp, Fa)	
Total Hours		83

## Music B.M., Music Performance-Piano Eight Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program, and should consult their music adviser for an eight-semester plan that is specific to their vocal, instrumental or theoretical emphasis area in music. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MUAP 110V Applied Major Voice/Instrument I (Sp, Fa)	3	
2 Credits of General Electives or MUTH 1003 Basic Musicianship (if required)	2-3	
MUEN 1411 Men's Chorus I (Sp, Fa) or MUEN 1591 Women's Chorus I (Sp, Fa)	1	
MLIT 1013 Music and Society (Sp, Fa) or HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa) or HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)	3	
1013 Elementary II world language course	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
MUTH 1603 Music Theory I (Sp)		3

MUTH 1621 Aural Perception I (Sp)		1
MUAP 110V Applied Major Voice/Instrument I (Sp, Fa)		3
MUEN 1411 Men's Chorus I (Sp, Fa) or MUEN 1591 Women's Chorus I (Sp, Fa)		1
MLIT 1013 Music and Society (Sp, Fa) (as needed) or HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa) or HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)		3
Year Total:	15	14

Second Year	Units	
	Fall	Spring
MUTH 2603 Music Theory II (Fa) <sup>1</sup>	3	
MUTH 1631 Aural Perception II (Fa)	1	
MUAP 210V Applied Major Voice/Instrument II (Sp, Fa)	3	
MUEN 2541 Accompanying II (Sp, Fa)	1	
MLIT 1013 Music and Society (Sp, Fa) (as needed) or HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa) or HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)	3	
Science University/state core lecture with corequisite lab requirement	4	
MUTH 3603 18th Century Counterpoint (Sp) <sup>1,2</sup> or MUTH 3623 Music Perception (Even years, Sp) or MUTH 3723 Jazz Analysis (Irregular) or MUTH 477V Special Topics in Music Theory (Irregular)		3
MUTH 2621 Aural Perception III (Sp) <sup>1</sup>		1
MUAP 210V Applied Major Voice/Instrument II (Sp, Fa)		3
MUSY 2003 or WLIT 1113, U.S. history, or non-HIST social science requirement		3
MUEN 2541 Accompanying II (Sp, Fa)		1
MUAC 2112 Music Technology (Sp, Su, Fa) <sup>1</sup>		2
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)		3
Year Total:	15	16

Third Year	Units	
	Fall	Spring
MUTH 3613 Form and 20th Century Techniques (Fa) <sup>1,2</sup>	3	
MUTH 2631 Aural Perception IV (Fa) <sup>1</sup>	1	
MUHS 3703 History of Music to 1750 (Fa) <sup>1,2</sup>	3	
MUHS 4803 Survey of Keyboard Literature I (Even years, Fa) or MUTH 4322 Score Reading (Fa)	2-3	



MUAP 310V Applied Major Voice/Instrument III (Sp, Fa) <sup>1,2</sup>	4	
MUEN 3541 Accompanying III (Sp, Fa) <sup>1,2</sup>	1	
MUPD 3801 Conducting I (Fa) <sup>1,2</sup>	1	
MUHS 3713 History of Music from 1750 to Present (Sp) <sup>1,2</sup>	3	
MUHS 4813 Survey of Keyboard Literature II (Odd years, Sp) <sup>1,2</sup> or MUPD 4863 Piano Pedagogy (Even years, Sp)	3	
MUAP 310V Applied Major Voice/Instrument III (Sp, Fa) <sup>1,2</sup>	3	
MUAP 3201 Applied Recital I (Sp, Fa) <sup>1,2</sup>	1	
MUEN 3541 Accompanying III (Sp, Fa) <sup>1,2</sup>	1	
MUSY 2003 or WLIT 1113, U.S. history, or non-HIST social science course, as needed	3	
Year Total:	16	14

Fourth Year	Units	
	Fall	Spring
MUHS 4253 Special Topics in Music History (Sp, Fa) <sup>1,2</sup>	3	
MUTH 4322 Score Reading (Fa) or MUHS 4803 Survey of Keyboard Literature I (Even years, Fa)	2-3	
MUAP 410V Applied Major Voice/Instrument IV (Sp, Fa) <sup>1,2</sup>	4	
MUAP Applied Secondary Voice/Instrument or MUAC (see adviser)	1	
MUEN 4541 Accompanying IV (Sp, Fa) <sup>1,2</sup>	1	
Science University/state core lecture with corequisite lab requirement	4	
Select one of the following not selected in second year spring semester.	3	
MUTH 3603 18th Century Counterpoint (Sp) or MUTH 3623 Music Perception (Even years, Sp) or MUTH 3723 Jazz Analysis (Irregular) or MUTH 477V Special Topics in Music Theory (Irregular)		
MUHS 4813 Survey of Keyboard Literature II (Odd years, Sp) <sup>1,2</sup> or MUPD 4863 Piano Pedagogy (Even years, Sp)	3	
MUAP 410V Applied Major Voice/Instrument IV (Sp, Fa) <sup>1,2</sup>	3	
MUAP 4201 Applied Recital II (Sp, Fa) <sup>1,2</sup>	1	
MUAP Secondary Applied or MUAC (see adviser)	1	
MUEN 4541 Accompanying IV (Sp, Fa) <sup>1,2</sup>	1	
MUSY 2003 or WLIT 1113, US History, or non-HIST social science as needed	3	
Year Total:	15	15
Total Units in Sequence:		120

<sup>1</sup> Meets 40-hour advanced credit hour requirement.

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule.

## Requirements for a Major in Music leading to a Bachelor of Music Degree

In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the University Core requirements.

Students must complete:

A World Language Course at the 1013 Elementary II Level. 3  
Bachelor of Music Degree students pursuing the Voice Performance Concentration must complete this language requirement in either French, German, or Italian.

HIST 1113	Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)	3
HIST 1123	Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)	3
MUSY 2003	Music in World Cultures (Sp, Fa)	3
or WLIT 1113	World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)	

And all of the specific requirements for one of the following concentrations.<sup>1</sup>

<sup>1</sup> All students must complete two semesters of MUAP 110V with a grade of "A" or "B" and two semesters of MUAP 210V with a grade of "A" or "B" before enrolling in MUAP 310V.

### Voice Performance Concentration

MLIT 1013	Music and Society (Sp, Fa)	3
MUTH 1603	Music Theory I (Sp)	3
MUTH 1621	Aural Perception I (Sp)	1
MUTH 1631	Aural Perception II (Fa)	1
MUTH 2603	Music Theory II (Fa)	3
MUTH 2621	Aural Perception III (Sp)	1
MUTH 2631	Aural Perception IV (Fa)	1

Select two of the following: 6

MUTH 3603	18th Century Counterpoint (Sp) or MUTH 36: Music Perception (Even years, Sp) or MUTH 37: Jazz Analysis (Irregular) or MUTH 47: Special Topics in Music Theory (Irregular)	
MUTH 3613	Form and 20th Century Techniques (Fa)	3
MUAC 1221	Piano Class for Music Majors I (Sp)	1
MUAC 1231	Piano Class for Music Majors II (Fa)	1
MUAC 2221	Piano Class for Music Majors III (Sp)	1
MUAC 2231	Piano Class for Music Major IV (Fa)	1
MUAC 2112	Music Technology (Sp, Su, Fa)	2
MUHS 3703	History of Music to 1750 (Fa)	3
MUHS 3713	History of Music from 1750 to Present (Sp)	3
MUHS 4253	Special Topics in Music History (Sp, Fa)	3
MUHS 4763	Survey of Vocal Literature I (Even Years, Fa)	3
MUHS 4773	Survey of Vocal Literature II (Odd years, Sp)	3
<b>Applied Voice</b>		<b>20</b>

MUAP 110V	Applied Major Voice/Instrument I (Sp, Fa) (4 Hours)	
MUAP 210V	Applied Major Voice/Instrument II (Sp, Fa) (4 Hours)	
MUAP 310V	Applied Major Voice/Instrument III (Sp, Fa) (5 Hours)	
MUAP 3201	Applied Recital I (Sp, Fa)	
MUAP 410V	Applied Major Voice/Instrument IV (Sp, Fa) (5 Hours)	
MUAP 4201	Applied Recital II (Sp, Fa)	
MUAC 1121	English and Italian Diction for Singers (Fa)	1
MUAC 1141	German and French Diction for Singers (Sp)	1
MUPD 3801	Conducting I (Fa)	1
Ensemble (7 hours; see adviser for ensemble selection)		7
12 hours of additional World Language is also required. Language study, including the language requirements stated above in "Requirements for a Major in Music leading to a Bachelor of Music Degree," must include a minimum of three hours of one language and six hours from each of the other two languages selected from French, German, and Italian.		12
<b>Total Hours</b>		<b>85</b>

## Music B.M., Music Performance-Voice Eight Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program, and should consult their music adviser for an eight-semester plan that is specific to their vocal, instrumental or theoretical emphasis area in music. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MUTH 1003 Basic Musicianship (Su, Fa) (if required)	0-3	
MUAP 110V Applied Major Voice/Instrument I (Sp, Fa)	2	
MUAC 1121 English and Italian Diction for Singers (Fa)	1	
MUEN Music Ensemble I (see adviser)	1	
MLIT 1013 Music and Society (Sp, Fa) or HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa) or HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)	3	
1013 Elementary II world language (French, German or Italian)*	3	
MATH 1203C College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3

MUTH 1603 Music Theory I (Sp)		3
MUTH 1621 Aural Perception I (Sp)		1
MUAC 1221 Piano Class for Music Majors I (Sp)		1
MUAP 110V Applied Major Voice/Instrument I (Sp, Fa)		2
MUAC 1141 German and French Diction for Singers (Sp)		1
MUEN Music Ensemble I (see adviser)		1
World Language (French, German or Italian)*		3
<b>Year Total:</b>	<b>16</b>	<b>15</b>

Second Year	Units	
	Fall	Spring
MUTH 2603 Music Theory II (Fa) <sup>†</sup>	3	
MUTH 1631 Aural Perception II (Fa)	1	
MUAC 1231 Piano Class for Music Majors II (Fa)	1	
MUAC 2112 Music Technology (Sp, Su, Fa)	2	
MUAP 210V Applied Major Voice/Instrument II (Sp, Fa)	2	
MUEN Music Ensemble II (see adviser)	1	
MLIT 1013 Music and Society (Sp, Fa) (as needed) or HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa) or HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)	3	
World Language (French, German or Italian as needed)*		3
MLIT 1013 Music and Society (Sp, Fa) or HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa) or HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)		3
Select one of the following:		3
MUTH 3603 18th Century Counterpoint (Sp) <sup>††</sup> or MUTH 3623 Music Perception (Even years, Sp) or MUTH 3723 Jazz Analysis (Irregular) or MUTH 477V Special Topics in Music Theory (Irregular)		
MUTH 2621 Aural Perception III (Sp) <sup>†</sup>		1
MUAC 2221 Piano Class for Music Majors III (Sp)		1
MUAP 210V Applied Major Voice/Instrument II (Sp, Fa)		2
MUEN Music Ensemble II (see adviser)		1
World Language (French, German or Italian as needed)*		3
<b>Year Total:</b>	<b>16</b>	<b>14</b>

Third Year	Units	
	Fall	Spring
MUAC 2231 Piano Class for Music Major IV (Fa)	1	

MUTH 3613 Form and 20th Century Techniques (Fa) <sup>††</sup>	3	
MUTH 2631 Aural Perception IV (Fa) <sup>†</sup>	1	
MUHS 3703 History of Music to 1750 (Fa) <sup>††</sup>	3	
MUHS 4763 Survey of Vocal Literature I (Even Years, Fa) (or MUSY 2003 or WLIT 1113, US history, or non-HIST social science requirement) <sup>††</sup>	3	
MUAP 310V Applied Major Voice/Instrument III (Sp, Fa) <sup>††</sup>	3	
MUEN Music Ensemble III (see adviser) <sup>††</sup>	1	
MUPD 3801 Conducting I (Fa) <sup>††</sup>	1	
Select one of the following not selected in second year spring semester	3	
MUTH 3603 18th Century Counterpoint (Sp) or MUTH 3623 Music Perception (Even years, Sp) or MUTH 3723 Jazz Analysis (Irregular) or MUTH 477V Special Topics in Music Theory (Irregular)		
MUHS 3713 History of Music from 1750 to Present (Sp) <sup>††</sup>	3	
MUHS 4773 Survey of Vocal Literature II (Odd years, Sp) (or MUSY 2003 or WLIT 1113, U.S. history, or non-HIST social science requirement, as needed) <sup>††</sup>	3	
MUAP 310V Applied Major Voice/Instrument III (Sp, Fa) <sup>††</sup>	2	
MUAP 3201 Applied Recital I (Sp, Fa) <sup>††</sup>	1	
MUEN Music Ensemble III (see adviser) <sup>††</sup>	1	
World Language (French, German or Italian as needed)	3	
Year Total:	16	16

Fourth Year	Units	
	Fall	Spring
MUHS 4253 Special Topics in Music History (Sp, Fa) <sup>††</sup>	3	
MUHS 4763 Survey of Vocal Literature I (Even Years, Fa) (or MUSY 2003 or WLIT 1113, U.S. history, or non-HIST social science requirement (as needed))	3	
MUAP 410V Applied Major Voice/Instrument IV (Sp, Fa) <sup>††</sup>	3	
MUEN Music Ensemble IV (see adviser)	1	
Science University/state core lecture with corequisite lab requirement	4	
MUHS 4773 Survey of Vocal Literature II (Odd years, Sp) <sup>††</sup>		3
MUAP 410V Applied Major Voice/Instrument IV (Sp, Fa) <sup>††</sup>		2
MUAP 4201 Applied Recital II (Sp, Fa) <sup>††</sup>		1
Science University/state core lecture with corequisite lab requirement		4
MUSY 2003 or WLIT 1113, U.S. history, or non-HIST social science requirement		3
Year Total:	14	13

Total Units in Sequence: 120

† Meets 40-hour advanced credit hour requirement.

‡ Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule.

\* Students in the Voice Performance major are required to take 9 hours of world language in addition to the Elementary II world language requirement, so that at least 3 hours each of French, German, and Italian are taken.

## Requirements for a Major in Music leading to a Bachelor of Music Degree

In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the University Core requirements.

Students must complete:

A World Language Course at the 1013 Elementary II Level. 3  
 Bachelor of Music Degree students pursuing the Voice Performance Concentration must complete this language requirement in either French, German, or Italian.

<b>HIST 1113</b>	<b>Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)</b>	<b>3</b>
<b>HIST 1123</b>	<b>Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)</b>	<b>3</b>
<b>MUSY 2003</b>	<b>Music in World Cultures (Sp, Fa)</b>	<b>3</b>
<b>or WLIT 1113</b>	<b>World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)</b>	

And all of the specific requirements for one of the following concentrations.<sup>1</sup>

<sup>1</sup> All students must complete two semesters of MUAP 110V with a grade of "A" or "B" and two semesters of MUAP 210V with a grade of "A" or "B" before enrolling in MUAP 310V.

### String Performance Concentration

<b>MLIT 1013</b>	<b>Music and Society (Sp, Fa)</b>	<b>3</b>
<b>MUTH 1603</b>	<b>Music Theory I (Sp)</b>	<b>3</b>
<b>MUTH 1621</b>	<b>Aural Perception I (Sp)</b>	<b>1</b>
<b>MUTH 1631</b>	<b>Aural Perception II (Fa)</b>	<b>1</b>
<b>MUTH 2603</b>	<b>Music Theory II (Fa)</b>	<b>3</b>
<b>MUTH 2621</b>	<b>Aural Perception III (Sp)</b>	<b>1</b>
<b>MUTH 2631</b>	<b>Aural Perception IV (Fa)</b>	<b>1</b>

Select two of the following: 6

<b>MUTH 3603</b>	<b>18th Century Counterpoint (Sp)</b>	
	<b>or MUTH 36:Music Perception (Even years, Sp)</b>	
	<b>or MUTH 37:Jazz Analysis (Irregular)</b>	
	<b>or MUTH 47:Special Topics in Music Theory (Irregular)</b>	
<b>MUTH 3613</b>	<b>Form and 20th Century Techniques (Fa)</b>	<b>3</b>
<b>MUAC 1221</b>	<b>Piano Class for Music Majors I (Sp)</b>	<b>1</b>
<b>MUAC 1231</b>	<b>Piano Class for Music Majors II (Fa)</b>	<b>1</b>
<b>MUAC 2221</b>	<b>Piano Class for Music Majors III (Sp)</b>	<b>1</b>
<b>MUAC 2231</b>	<b>Piano Class for Music Major IV (Fa)</b>	<b>1</b>

MUAC 2112	Music Technology (Sp, Su, Fa)	2
MUHS 3703	History of Music to 1750 (Fa)	3
MUHS 3713	History of Music from 1750 to Present (Sp)	3
MUHS 4253	Special Topics in Music History (Sp, Fa)	3
MUHS 4703	Survey of String Literature (Even years, Fa)	3
MUPD 3801	Conducting I (Fa)	1
<b>Applied String</b>		<b>28</b>
MUAP 110V	Applied Major Voice/Instrument I (Sp, Fa) (6 Hours)	
MUAP 210V	Applied Major Voice/Instrument II (Sp, Fa) (6 Hours)	
MUAP 310V	Applied Major Voice/Instrument III (Sp, Fa) (7 Hours)	
MUAP 3201	Applied Recital I (Sp, Fa)	
MUAP 410V	Applied Major Voice/Instrument IV (Sp, Fa) (7 Hours)	
MUAP 4201	Applied Recital II (Sp, Fa)	
MUEN 1411	Men's Chorus I (Sp, Fa)	1
or MUEN 1591	Women's Chorus I (Sp, Fa)	
Select seven of the following:		7
MUEN 1431	Symphony Orchestra I (Sp, Fa)	
MUEN 2431	Symphony Orchestra II (Sp, Fa)	
MUEN 3431	Symphony Orchestra III (Sp, Fa)	
MUEN 4431	Symphony Orchestra IV (Sp, Fa)	
MUEN 4631	Symphony Orchestra V (Sp, Fa)	
Select four of the following:		4
MUEN 1501	Chamber Music I (Sp, Fa)	
MUEN 2501	Chamber Music II (Sp, Fa)	
MUEN 3501	Chamber Music III (Sp, Fa)	
MUEN 4501	Chamber Music IV (Sp, Fa)	
MUEN 4801	Chamber Music V (Sp, Fa)	
Total Hours		81

## Music B.M., Music Performance-String Eight Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program, and should consult their music adviser for an eight-semester plan that is specific to their vocal, instrumental or theoretical emphasis area in music. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MUTH 1003 Basic Musicianship (Su, Fa) (if required, or General Elective)	3	
MUAP 110V Applied Major Voice/Instrument I (Sp, Fa)	3	
MUEN 1411 Men's Chorus I (Sp, Fa) or MUEN 1591 Women's Chorus I (Sp, Fa)	1	
MUEN 1431 Symphony Orchestra I (Sp, Fa)	1	

1013 Elementary II world language course	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
MUTH 1603 Music Theory I (Sp)		3
MUTH 1621 Aural Perception I (Sp)		1
MUAC 1221 Piano Class for Music Majors I (Sp)		1
MUAP 110V Applied Major Voice/Instrument I (Sp, Fa)		3
MUEN 1431 Symphony Orchestra I (Sp, Fa)		1
MLIT 1013 Music and Society (Sp, Fa) (as needed) or HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa) or HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)		3
Year Total:	14	15

Second Year	Units	
	Fall	Spring
MUTH 2603 Music Theory II (Fa) <sup>1</sup>	3	
MUTH 1631 Aural Perception II (Fa)	1	
MUAC 1231 Piano Class for Music Majors II (Fa)	1	
MUAC 2112 Music Technology (Sp, Su, Fa) <sup>1</sup>	2	
MUAP 210V Applied Major Voice/Instrument II (Sp, Fa) <sup>1</sup>	3	
MUEN 2431 Symphony Orchestra II (Sp, Fa)	1	
MLIT 1013 Music and Society (Sp, Fa) (as needed) or HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa) or HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3	
Select one of the following:		3
MUTH 3603 18th Century Counterpoint (Sp) <sup>1,2</sup> or MUTH 3623 Music Perception (Even years, Sp) or MUTH 3723 Jazz Analysis (Irregular) or MUTH 477V Special Topics in Music Theory (Irregular)		
MUTH 2621 Aural Perception III (Sp) <sup>1</sup>		1
MUAC 2221 Piano Class for Music Majors III (Sp)		1
MUAP 210V Applied Major Voice/Instrument II (Sp, Fa)		3
MUEN 2431 Symphony Orchestra II (Sp, Fa)		1
Science University/state core lecture with corequisite lab requirement		4
MLIT 1013 Music and Society (Sp, Fa) (as needed) or HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa) or HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)		3

Year Total: 17 16

**Third Year**

	Units	
	Fall	Spring
MUTH 3613 Form and 20th Century Techniques (Fa) <sup>1,2</sup>	3	
MUTH 2631 Aural Perception IV (Fa) <sup>1</sup>	1	
MUAC 2231 Piano Class for Music Major IV (Fa) <sup>1</sup>	1	
MUHS 3703 History of Music to 1750 (Fa) <sup>1,2</sup>	3	
MUHS 4703 Survey of String Literature (Even years, Fa) (or MUSY 2003 or WLIT 1113, U.S. history, or non-HIST social science requirement) <sup>1,2</sup>	3	
MUAP 310V Applied Major Voice/Instrument III (Sp, Fa) <sup>1,2</sup>	4	
MUEN 3431 Symphony Orchestra III (Sp, Fa) <sup>1,2</sup>	1	
MUEN 3501 Chamber Music III (Sp, Fa) <sup>1,2</sup>	1	
Select one of the following not selected in second year spring semester:		3
MUTH 3603 18th Century Counterpoint (Sp) or MUTH 3623 Music Perception (Even years, Sp) or MUTH 3723 Jazz Analysis (Irregular) or MUTH 477V Special Topics in Music Theory (Irregular)		
MUHS 3713 History of Music from 1750 to Present (Sp) <sup>1,2</sup>		3
MUAP 310V Applied Major Voice/Instrument III (Sp, Fa) <sup>1,2</sup>		3
MUAP 3201 Applied Recital I (Sp, Fa) <sup>1,2</sup>		1
MUEN 3431 Symphony Orchestra III (Sp, Fa) <sup>1,2</sup>		1
MUEN 3501 Chamber Music III (Sp, Fa) <sup>1,2</sup>		1
MUSY 2003 or WLIT 1113, U.S. history, or non-HIST social science requirement, as needed		3
Year Total:	17	15

**Fourth Year**

	Units	
	Fall	Spring
MUHS 4253 Special Topics in Music History (Sp, Fa) <sup>1,2</sup>	3	
MUHS 4703 Survey of String Literature (Even years, Fa) (or MUSY 2003 or WLIT 1113, US history, or non-HIST social science requirement, as needed) <sup>1,2</sup>	3	
MUAP 410V Applied Major Voice/Instrument IV (Sp, Fa) <sup>1,2</sup>	4	
MUEN 4431 Symphony Orchestra IV (Sp, Fa) <sup>1,2</sup>	1	
MUEN 4501 Chamber Music IV (Sp, Fa) <sup>1,2</sup>	1	
MUPD 3801 Conducting I (Fa) <sup>1,2</sup>	1	
MUHS 4703 Survey of String Literature (Even years, Fa) (or MUSY 2003 or WLIT 1113, U.S. history, or non-HIST social science requirement, as needed) <sup>1,2</sup>		3
MUAP 410V Applied Major Voice/Instrument IV (Sp, Fa) <sup>1,2</sup>		3
MUAP 4201 Applied Recital II (Sp, Fa) <sup>1,2</sup>		1

MUEN 4431 Symphony Orchestra IV (Sp, Fa) (MUEN 4431 recommended; or General Elective) <sup>1,2</sup>		1
MUEN 4501 Chamber Music IV (Sp, Fa) <sup>1,2</sup>		1
Science University/state core lecture with corequisite lab requirement		4
Year Total:	13	13

Total Units in Sequence: 120

<sup>1</sup> Meets 40-hour advanced credit hour requirement.

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule.

## Requirements for a Major in Music leading to a Bachelor of Music Degree

In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the University Core requirements.

Students must complete:

A World Language Course at the 1013 Elementary II Level.		3
Bachelor of Music Degree students pursuing the Voice Performance Concentration must complete this language requirement in either French, German, or Italian.		
<b>HIST 1113</b>	<b>Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)</b>	<b>3</b>
<b>HIST 1123</b>	<b>Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)</b>	<b>3</b>
<b>MUSY 2003</b>	<b>Music in World Cultures (Sp, Fa)</b>	<b>3</b>
or <b>WLIT 1113</b>	<b>World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)</b>	

And all of the specific requirements for one of the following concentrations.<sup>1</sup>

<sup>1</sup> All students must complete two semesters of MUAP 110V with a grade of "A" or "B" and two semesters of MUAP 210V with a grade of "A" or "B" before enrolling in MUAP 310V.

### Woodwind, Brass, or Percussion Performance Concentration

<b>MLIT 1013</b>	<b>Music and Society (Sp, Fa)</b>	<b>3</b>
<b>MUTH 1603</b>	<b>Music Theory I (Sp)</b>	<b>3</b>
<b>MUTH 1621</b>	<b>Aural Perception I (Sp)</b>	<b>1</b>
<b>MUTH 1631</b>	<b>Aural Perception II (Fa)</b>	<b>1</b>
<b>MUTH 2603</b>	<b>Music Theory II (Fa)</b>	<b>3</b>
<b>MUTH 2621</b>	<b>Aural Perception III (Sp)</b>	<b>1</b>
<b>MUTH 2631</b>	<b>Aural Perception IV (Fa)</b>	<b>1</b>
Select two of the following:		6
<b>MUTH 3603</b>	<b>18th Century Counterpoint (Sp)</b>	
<b>MUTH 3623</b>	<b>Music Perception (Even years, Sp)</b>	
<b>MUTH 3723</b>	<b>Jazz Analysis (Irregular)</b>	
<b>MUTH 477V</b>	<b>Special Topics in Music Theory (Irregular)</b>	
<b>MUTH 3613</b>	<b>Form and 20th Century Techniques (Fa)</b>	<b>3</b>
<b>MUTH 4612</b>	<b>Orchestration (Sp)</b>	<b>2</b>

MUAC 1221	Piano Class for Music Majors I (Sp)	1
MUAC 1231	Piano Class for Music Majors II (Fa)	1
MUAC 2221	Piano Class for Music Majors III (Sp)	1
MUAC 2231	Piano Class for Music Major IV (Fa)	1
MUAC 2112	Music Technology (Sp, Su, Fa)	2
MUHS 3703	History of Music to 1750 (Fa)	3
MUHS 3713	History of Music from 1750 to Present (Sp)	3
MUHS 4253	Special Topics in Music History (Sp, Fa)	3
MUHS 4733	Survey of Symphonic Literature (Even years, Sp)	3
MUPD 3801	Conducting I (Fa)	1
<b>Applied Instrument</b>		<b>24</b>
MUAP 110V	Applied Major Voice/Instrument I (Sp, Fa) (6 Hours)	
MUAP 210V	Applied Major Voice/Instrument II (Sp, Fa) (6 Hours)	
MUAP 310V	Applied Major Voice/Instrument III (Sp, Fa) (5 Hours)	
MUAP 3201	Applied Recital I (Sp, Fa)	
MUAP 410V	Applied Major Voice/Instrument IV (Sp, Fa) (5 Hours)	
MUAP 4201	Applied Recital II (Sp, Fa)	
MUEN 1411	Men's Chorus I (Sp, Fa)	1
	or MUEN 1591 Women's Chorus I (Sp, Fa)	
Large Ensembles (7 hours)		7
Small Ensembles (4 hours)		4
Total Hours		79

## Sample Music B.M., Music Performance-Instrumental, Woodwind, Brass, Percussion Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program, and should consult their music adviser for an eight-semester plan that is specific to their vocal, instrumental or theoretical emphasis area in music. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MUTH 1003 Basic Musicianship (Su, Fa) (if required, else General Elective)	3	
MUAP 110V Applied Major Voice/Instrument I (Sp, Fa)	3	
MUEN 1411 Men's Chorus I (Sp, Fa) or MUEN 1591 Women's Chorus I (Sp, Fa)	1	
General Elective	3	
Select one of the following:	3	

MLIT 1013 Music and Society (Sp, Fa) or HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa) or HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)		
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
MUTH 1603 Music Theory I (Sp)		3
MUTH 1621 Aural Perception I (Sp)		1
MUAC 1221 Piano Class for Music Majors I (Sp)		1
MUAP 110V Applied Major Voice/Instrument I (Sp, Fa)		3
MUEN Large Music Ensemble I (see adviser)		1
HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa) (as needed) or HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa) or MLIT 1013 Music and Society (Sp, Fa)		3
Year Total:	16	15

### Second Year

	Units	
	Fall	Spring
MUTH 2603 Music Theory II (Fa) <sup>1</sup> or MUTH 1603 Music Theory I (Sp)	3	
MUTH 1631 Aural Perception II (Fa)	1	
MUAC 1231 Piano Class for Music Majors II (Fa)	1	
MUAC 2112 Music Technology (Sp, Su, Fa)	2	
MUAP 210V Applied Major Voice/Instrument II (Sp, Fa)	3	
MUEN Large Music Ensemble II (see adviser)	1	
Science University/State Core lecture w/ corequisite lab requirement	4	
HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa) (as needed) or MLIT 1013 Music and Society (Sp, Fa) or HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)		3
Select one of the following:		3
MUTH 3603 18th Century Counterpoint (Sp) <sup>2</sup> or MUTH 3623 Music Perception (Even years, Sp) or MUTH 3723 Jazz Analysis (Irregular) or MUTH 477V Special Topics in Music Theory (Irregular)		
MUTH 2621 Aural Perception III (Sp) <sup>1</sup>		1
MUAC 2221 Piano Class for Music Majors III (Sp)		1
MUAP 210V Applied Major Voice/Instrument II (Sp, Fa)		3
MUEN Large Music Ensemble II (see adviser)		1

MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (or higher-level MATH, or 1013 Elementary II world language course)	3	
Year Total:	15	15

Third Year	Units	
	Fall	Spring
MUTH 3613 Form and 20th Century Techniques (Fa) <sup>2</sup>	3	
MUTH 2631 Aural Perception IV (Fa) <sup>1</sup>	1	
MUAC 2231 Piano Class for Music Major IV (Fa)	1	
MUHS 3703 History of Music to 1750 (Fa) <sup>2</sup>	3	
MUAP 310V Applied Major Voice/Instrument III (Sp, Fa) <sup>2</sup>	3	
MUEN Large Music Ensemble III (see adviser) <sup>2</sup>	1	
University/State Core humanities (MUSY 2003 or WLIT 1113), US history, or social science requirement (non-HIST)	3	
MUEN Small Music Ensemble III (see adviser)	1	
Select one of the following:		3
MUTH 3603 18th Century Counterpoint (Sp) or MUTH 3623 Music Perception (Even years, Sp) or MUTH 3723 Jazz Analysis (Irregular) or MUTH 477V Special Topics in Music Theory (Irregular)		
MUHS 3713 History of Music from 1750 to Present (Sp) <sup>2</sup>		3
MUHS 4733 Survey of Symphonic Literature (Even years, Sp)		3
MUAP 310V Applied Major Voice/Instrument III (Sp, Fa) <sup>2</sup>		2
MUAP 3201 Applied Recital I (Sp, Fa) <sup>2</sup>		1
MUEN Large Music Ensemble III (see adviser) <sup>2</sup>		1
MUEN Small Music Ensemble III (see adviser)		1
Year Total:	16	14

Fourth Year	Units	
	Fall	Spring
MUHS 4253 Special Topics in Music History (Sp, Fa) <sup>2</sup>	3	
University/State Core Humanities (MUSY 2003 or WLIT 1113), U.S. History, or Social Science (non-HIST) Requirement as needed	3	
MUAP 410V Applied Major Voice/Instrument IV (Sp, Fa) <sup>2</sup>	3	
MUEN Large Music Ensemble IV (see adviser) <sup>2</sup>	1	
MUEN Small Music Ensemble IV (see adviser) <sup>1,2</sup>	1	
MUPD 3801 Conducting I (Fa)	1	
Science University/State Core Lecture with Corequisite Lab requirement	4	
MUTH 4612 Orchestration (Sp)		2
University/State Core Humanities (MUSY 2003 or WLIT 1113), U.S. History, or Social Science (non-HIST) requirement as needed		3

MUAP 410V Applied Major Voice/Instrument IV (Sp, Fa) <sup>2</sup>		2
MUAP 4201 Applied Recital II (Sp, Fa) <sup>2</sup>		1
MUEN Large Music Ensemble IV (see adviser) <sup>2</sup>		1
MUEN Small Music Ensemble IV (see adviser) <sup>1,2</sup>		1
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (or 1013 Elementary II world language course)		3
Year Total:	16	13

Total Units in Sequence: 120

<sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations (p. 183).

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations (p. 183) of this chapter.

## Requirements for a Major in Music leading to a Bachelor of Music Degree

In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the University Core requirements.

Students must complete:

A World Language Course at the 1013 Elementary II Level.	3
Bachelor of Music Degree students pursuing the Voice Performance Concentration must complete this language requirement in either French, German, or Italian.	
<b>HIST 1113</b> Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)	3
<b>HIST 1123</b> Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)	3
<b>MUSY 2003</b> Music in World Cultures (Sp, Fa) or WLIT 1113 World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)	3

And all of the specific requirements for one of the following concentrations.<sup>1</sup>

<sup>1</sup> All students must complete two semesters of MUAP 110V with a grade of "A" or "B" and two semesters of MUAP 210V with a grade of "A" or "B" before enrolling in MUAP 310V.

### Guitar Performance Concentration

<b>MLIT 1013</b> Music and Society (Sp, Fa)	3
<b>MUTH 1603</b> Music Theory I (Sp)	3
<b>MUTH 1621</b> Aural Perception I (Sp)	1
<b>MUTH 1631</b> Aural Perception II (Fa)	1
<b>MUTH 2603</b> Music Theory II (Fa)	3
<b>MUTH 2621</b> Aural Perception III (Sp)	1
<b>MUTH 2631</b> Aural Perception IV (Fa)	1
Select two of the following:	6
<b>MUTH 3603</b> 18th Century Counterpoint (Sp) or MUTH 3623 Music Perception (Even years, Sp)	

or MUTH 37:Jazz Analysis (Irregular)		
or MUTH 47:Special Topics in Music Theory (Irregular)		
MUTH 3613	Form and 20th Century Techniques (Fa)	3
MUTH 4612	Orchestration (Sp)	2
MUAC 1221	Piano Class for Music Majors I (Sp)	1
MUAC 1231	Piano Class for Music Majors II (Fa)	1
MUAC 2221	Piano Class for Music Majors III (Sp)	1
MUAC 2231	Piano Class for Music Major IV (Fa)	1
MUAC 2112	Music Technology (Sp, Su, Fa)	2
MUHS 3703	History of Music to 1750 (Fa)	3
MUHS 3713	History of Music from 1750 to Present (Sp)	3
MUHS 4253	Special Topics in Music History (Sp, Fa)	3
MUHS 4703	Survey of String Literature (Even years, Fa)	3
MUPD 3801	Conducting I (Fa)	1
<b>Applied Guitar</b>		<b>28</b>
MUAP 110V	Applied Major Voice/Instrument I (Sp, Fa) (6 Hours)	
MUAP 210V	Applied Major Voice/Instrument II (Sp, Fa) (6 Hours)	
MUAP 310V	Applied Major Voice/Instrument III (Sp, Fa) (7 Hours)	
MUAP 3201	Applied Recital I (Sp, Fa)	
MUAP 410V	Applied Major Voice/Instrument IV (Sp, Fa) (7 Hours)	
MUAP 4201	Applied Recital II (Sp, Fa)	
MUEN 1411	Men's Chorus I (Sp, Fa)	1
or MUEN 1591 Women's Chorus I (Sp, Fa)		
Ensemble (7 hours; See adviser for ensemble selections)		7
<b>Total Hours</b>		<b>79</b>

## Music B.M., Music Performance-Guitar Eight Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program, and should consult their music adviser for an eight-semester plan that is specific to their vocal, instrumental or theoretical emphasis area in music. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MUTH 1003 Basic Musicianship (Su, Fa) (if required, or General Elective)	3	
MUAP 110V Applied Major Voice/Instrument I (Sp, Fa)	3	
MUEN 1411 Men's Chorus I (Sp, Fa) or MUEN 1591 Women's Chorus I (Sp, Fa)	1	

MLIT 1013 Music and Society (Sp, Fa)	3	
or HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)		
or HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)		
General Elective	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
MUTH 1603 Music Theory I (Sp)		3
MUTH 1621 Aural Perception I (Sp)		1
MUAC 1221 Piano Class for Music Majors I (Sp)		1
MUAP 110V Applied Major Voice/Instrument I (Sp, Fa)		3
MUEN Music Ensemble I (see adviser)		1
MLIT 1013 Music and Society (Sp, Fa) (as needed) or HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)		3
or HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)		
<b>Year Total:</b>	<b>16</b>	<b>15</b>

	Units	
	Fall	Spring
MUTH 2603 Music Theory II (Fa) (MUEN Music Ensemble II (see adviser)) <sup>1</sup>	3	
MUTH 1631 Aural Perception II (Fa)	1	
MUAC 1231 Piano Class for Music Majors II (Fa)	1	
MUAC 2112 Music Technology (Sp, Su, Fa)	2	
MUAP 210V Applied Major Voice/Instrument II (Sp, Fa)	3	
MUEN Music Ensemble II (see adviser)	1	
1013 Elementary II world language course	3	
MLIT 1013 Music and Society (Sp, Fa) (as needed) or HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)		3
or HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)		
Select one of the following:		3
MUTH 3603 18th Century Counterpoint (Sp) <sup>1,2</sup> or MUTH 3623 Music Perception (Even years, Sp) or MUTH 3723 Jazz Analysis (Irregular) or MUTH 477V Special Topics in Music Theory (Irregular)		
MUTH 2621 Aural Perception III (Sp) <sup>1</sup>		1
MUAC 2221 Piano Class for Music Majors III (Sp)		1
MUAP 210V Applied Major Voice/Instrument II (Sp, Fa)		3
MUEN Music Ensemble II (see adviser)		1
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (or higher-level math)		3



Year Total: 14 15

Third Year	Units	
	Fall	Spring
MUTH 3613 Form and 20th Century Techniques (Fa) <sup>1,2</sup>	3	
MUTH 2631 Aural Perception IV (Fa) <sup>1</sup>	1	
MUAC 2231 Piano Class for Music Major IV (Fa)	1	
MUHS 3703 History of Music to 1750 (Fa) <sup>1,2</sup>	3	
MUHS 4703 Survey of String Literature (Even years, Fa) (or MUSY 2003 or WLIT 1113, U.S. history, or social science (non-HIST))	3	
MUAP 310V Applied Major Voice/Instrument III (Sp, Fa) <sup>1,2</sup>	4	
MUEN Music Ensemble III (see adviser) <sup>1,2</sup>	1	
MUPD 3801 Conducting I (Fa) <sup>1,2</sup>	1	
Select one of the following not selected in second year spring semester:		3
MUTH 3603 18th Century Counterpoint (Sp) or MUTH 3623 Music Perception (Even years, Sp) or MUTH 3723 Jazz Analysis (Irregular) or MUTH 477V Special Topics in Music Theory (Irregular)		
MUHS 3713 History of Music from 1750 to Present (Sp) <sup>1,2</sup>		3
MUSY 2003 or WLIT 1113, U.S. history, or social science (non-HIST) as needed		3
MUAP 310V Applied Major Voice/Instrument III (Sp, Fa) <sup>1,2</sup>		3
MUAP 3201 Applied Recital I (Sp, Fa) <sup>1,2</sup>		1
MUEN Music Ensemble III (see adviser)		1
Year Total:	17	14

Fourth Year	Units	
	Fall	Spring
MUHS 4253 Special Topics in Music History (Sp, Fa)	3	
MUHS 4703 Survey of String Literature (Even years, Fa) (or MUSY 2003 or WLIT 1113, US history, or social science (non-HIST) as needed)	3	
MUAP 410V Applied Major Voice/Instrument IV (Sp, Fa)	4	
MUEN Music Ensemble IV (see adviser)	1	
Science University/state core lecture with corequisite lab requirement	4	
MUTH 4612 Orchestration (Sp) <sup>1,2</sup>		2
MUSY 2003 or WLIT 1113, U.S. history, or social science (non-HIST) as needed		3
MUAP 410V Applied Major Voice/Instrument IV (Sp, Fa) <sup>1,2</sup>		3
MUAP 4201 Applied Recital II (Sp, Fa) <sup>1,2</sup>		1
MUEN Music Ensemble IV (recommended; see adviser), or General Elective <sup>1,2</sup>		1
Science University/state core lecture with corequisite lab requirement		4

Year Total: 15 14

Total Units in Sequence: 120

<sup>1</sup> Meets 40-hour advanced credit hour requirement.<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule.

## Requirements for a Major in Music leading to a Bachelor of Music Degree

In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the University Core requirements.

Students must complete:

A World Language Course at the 1013 Elementary II Level. Bachelor of Music Degree students pursuing the Voice Performance Concentration must complete this language requirement in either French, German, or Italian. 3

HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa) 3

HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa) 3

MUSY 2003 Music in World Cultures (Sp, Fa) 3  
or WLIT 1113 World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)

And all of the specific requirements for one of the following concentrations.<sup>1</sup>

<sup>1</sup> All students must complete two semesters of MUAP 110V with a grade of "A" or "B" and two semesters of MUAP 210V with a grade of "A" or "B" before enrolling in MUAP 310V.

### Composition Concentration

MLIT 1013 Music and Society (Sp, Fa) 3

MUTH 1603 Music Theory I (Sp)<sup>1</sup> 3

MUTH 1621 Aural Perception I (Sp) 1

MUTH 1631 Aural Perception II (Fa) 1

MUTH 2603 Music Theory II (Fa)<sup>1</sup> 3

MUTH 2621 Aural Perception III (Sp) 1

MUTH 2631 Aural Perception IV (Fa) 1

Select two from the following: 6

MUTH 3603 18th Century Counterpoint (Sp)

or MUTH 36: Music Perception (Even years, Sp)

or MUTH 37: Jazz Analysis (Irregular)

or MUTH 47: Special Topics in Music Theory (Irregular)

MUTH 3613 Form and 20th Century Techniques (Fa)<sup>1</sup> 3

MUTH 4612 Orchestration (Sp) 2

MUAC 1221 Piano Class for Music Majors I (Sp)<sup>2</sup> 1

MUAC 1231 Piano Class for Music Majors II (Fa)<sup>2</sup> 1

MUAC 2221 Piano Class for Music Majors III (Sp)<sup>2</sup> 1

MUAC 2231 Piano Class for Music Major IV (Fa)<sup>2</sup> 1

MUAC 2112 Music Technology (Sp, Su, Fa) 2

MUHS 3703	History of Music to 1750 (Fa)	3
MUHS 3713	History of Music from 1750 to Present (Sp)	3
MUHS 4253	Special Topics in Music History (Sp, Fa)	3
MUPD 3801	Conducting I (Fa)	1
<b>Composition Courses</b>		<b>14</b>
MUTH 164V	Composition I (Sp, Fa)	
MUTH 264V	Composition II (Sp, Fa)	
MUTH 364V	Composition III (Sp, Fa)	
MUTH 464V	Composition IV (Sp, Fa)	
<b>Applied Major-Level Courses</b>		<b>16</b>
MUAP 110V	Applied Major Voice/Instrument I (Sp, Fa)	
MUAP 130V	Applied Skills Voice/Instrument I (Sp, Fa)	
MUAP 210V	Applied Major Voice/Instrument II (Sp, Fa)	
MUAP 230V	Applied Skills Voice/Instrument II (Sp, Fa)	
MUAP 310V	Applied Major Voice/Instrument III (Sp, Fa)	
MUAP 330V	Applied Skills Voice/Instrument III (Sp, Fa)	
MUAP 410V	Applied Major Voice/Instrument IV (Sp, Fa)	
MUAP 415V	Applied Skills Voice/Instrument IV (Sp, Fa)	
MUAP 4201	Applied Recital II (Sp, Fa)	1
MUEN 1411	Men's Chorus I (Sp, Fa)	1
	or MUEN 1591 Women's Chorus I (Sp, Fa)	
Ensemble (7 hours; See adviser for ensemble selections)		7
Total Hours		79

<sup>1</sup> Students majoring in Composition must receive a grade of "B" or higher in MUTH 1603, MUTH 2603, and MUTH 3613.

<sup>2</sup> Demonstration of piano skills appropriate for a composer; see Piano Proficiency Requirement above.

## Music B.M., Music Composition Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program, and should consult their music adviser for an eight-semester plan that is specific to their vocal, instrumental or theoretical emphasis area in music. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MUTH 1003 Basic Musicianship (Su, Fa) (if required or General Elective)	3	
MUAP 110V Applied Major Voice/Instrument I (Sp, Fa)	2	
MUEN 1411 Men's Chorus I (Sp, Fa) or MUEN 1591 Women's Chorus I (Sp, Fa)	1	

MLIT 1013 Music and Society (Sp, Fa) or HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa) or HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)	3	
1013 Elementary II world language course	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)	3	
MUTH 1603 Music Theory I (Sp) (grade of B or better)	3	
MUTH 1621 Aural Perception I (Sp)	1	
MUAC 1221 Piano Class for Music Majors I (Sp)	1	
MUAP 110V Applied Major Voice/Instrument I (Sp, Fa)	2	
MUEN Music Ensemble I (see adviser)	1	
HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa) or HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa) or MLIT 1013 Music and Society (Sp, Fa)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (or higher-level math)	3	
Year Total:	15	17

	Units	
	Fall	Spring
MUTH 2603 Music Theory II (Fa) (grade B or better) <sup>1</sup>	3	
MUTH 1631 Aural Perception II (Fa)	1	
MUAC 1231 Piano Class for Music Majors II (Fa)	1	
MUAC 2112 Music Technology (Sp, Su, Fa)	2	
MUAP 210V Applied Major Voice/Instrument II (Sp, Fa)	2	
MUEN Music Ensemble II (see adviser)	1	
Science university/state core lecture and corequisite lab	4	
HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa) (as needed) or MLIT 1013 Music and Society (Sp, Fa) or HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)	3	
MUTH 3603 18th Century Counterpoint (Sp) <sup>2</sup> or MUTH 3623 Music Perception (Even years, Sp) or MUTH 3723 Jazz Analysis (Irregular) or MUTH 477V Special Topics in Music Theory (Irregular)	3	
MUTH 2621 Aural Perception III (Sp) <sup>1</sup>	1	
MUAC 2221 Piano Class for Music Majors III (Sp)	1	
MUAP 210V Applied Major Voice/Instrument II (Sp, Fa)	2	

MUTH 164V Composition I (Sp, Fa) or MUTH 264V Composition II (Sp, Fa)	2	
MUEN Music Ensemble II (see adviser)	1	
University/state core U.S. History, humanities (MUSY 2003 or WLIT 1113), or non-HIST social science requirement	3	
Year Total:	14	16

**Third Year**

	Units	
	Fall	Spring
MUTH 3613 Form and 20th Century Techniques (Fa) <sup>1,2</sup>	3	
MUTH 2631 Aural Perception IV (Fa) <sup>1</sup>	1	
MUAC 2231 Piano Class for Music Major IV (Fa)	1	
MUHS 3703 History of Music to 1750 (Fa) <sup>1,2</sup>	3	
MUAP 310V Applied Major Voice/Instrument III (Sp, Fa) or MUAP 130V Applied Skills Voice/Instrument I (Sp, Fa)	2	
MUTH 364V Composition III (Sp, Fa)	3	
MUEN Music Ensemble III (see adviser)	1	
MUPD 3801 Conducting I (Fa)	1	
Select one of the following as needed:		3
MUTH 3603 18th Century Counterpoint (Sp) or MUTH 3623 Music Perception (Even years, Sp) or MUTH 3723 Jazz Analysis (Irregular) or MUTH 477V Special Topics in Music Theory (Irregular)		3
MUHS 3713 History of Music from 1750 to Present (Sp) <sup>1,2</sup>		3
MUAP 310V Applied Major Voice/Instrument III (Sp, Fa) or MUAP 130V Applied Skills Voice/Instrument I (Sp, Fa)		2
MUTH 364V Composition III (Sp, Fa) <sup>1,2</sup>		3
MUEN Music Ensemble III (see adviser) <sup>1,2</sup>		1
University/state core non-HIST social science, U.S. History, or humanities (MUSY 2003 or WLIT 1113) requirement as needed		3
Year Total:	15	15

**Fourth Year**

	Units	
	Fall	Spring
MUHS 4253 Special Topics in Music History (Sp, Fa)	3	
MUAP 410V Applied Major Voice/Instrument IV (Sp, Fa) <sup>1,2</sup> or MUAP 230V Applied Skills Voice/Instrument II (Sp, Fa)	2	
MUTH 464V Composition IV (Sp, Fa)	3	
MUEN Music Ensemble IV (see adviser) <sup>1,2</sup>	1	
Science University/state core lecture and corequisite lab requirement	4	
MUTH 4612 Orchestration (Sp) <sup>1,2</sup>		2

MUAP 410V Applied Major Voice/Instrument IV (Sp, Fa) <sup>1,2</sup> or MUAP 230V Applied Skills Voice/Instrument II (Sp, Fa)	2
MUTH 464V Composition IV (Sp, Fa) <sup>1,2</sup>	3
MUAP 4301 Composition Recital (Sp, Fa)	1
MUEN Music Ensemble IV (recommended, see adviser) or General Elective <sup>1,2</sup>	1
University/state core humanities (MUSY 2003 or WLIT 1113), non-HIST social science, or U.S. History requirement (as needed)	3
General Elective	3
Year Total:	13

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Total Units in Sequence: 120

\* Must also demonstrate piano skills appropriate for a composer.

<sup>1</sup> Meets 40-hour advanced credit hour requirement.

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule.

## Requirements for a Major in Music leading to a Bachelor of Music Degree

In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the University Core requirements.

Students must complete:

A World Language Course at the 1013 Elementary II Level.	3
Bachelor of Music Degree students pursuing the Voice Performance Concentration must complete this language requirement in either French, German, or Italian.	
<b>HIST 1113</b> Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)	3
<b>HIST 1123</b> Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)	3
<b>MUSY 2003</b> Music in World Cultures (Sp, Fa) or <b>WLIT 1113</b> World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)	3

And all of the specific requirements for one of the following concentrations.<sup>1</sup>

<sup>1</sup> All students must complete two semesters of MUAP 110V with a grade of "A" or "B" and two semesters of MUAP 210V with a grade of "A" or "B" before enrolling in MUAP 310V.

### Theory Concentration

<b>MLIT 1013</b> Music and Society (Sp, Fa)	3
<b>MUTH 1603</b> Music Theory I (Sp) <sup>1</sup>	3
<b>MUTH 1621</b> Aural Perception I (Sp)	1
<b>MUTH 1631</b> Aural Perception II (Fa)	1
<b>MUTH 2603</b> Music Theory II (Fa) <sup>1</sup>	3
<b>MUTH 2621</b> Aural Perception III (Sp)	1
<b>MUTH 2631</b> Aural Perception IV (Fa)	1

MUTH 3613	Form and 20th Century Techniques (Fa) <sup>1</sup>	3	MUAP 110V Applied Major Voice/Instrument I (Sp, Fa)	2
MUTH 4612	Orchestration (Sp)	2	MUEN 1411 Men's Chorus I (Sp, Fa) or MUEN 1591 Women's Chorus I (Sp, Fa)	1
MUTH Upper-level Electives		12	MLIT 1013 Music and Society (Sp, Fa) (as needed) or HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa) or HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)	3
Recommended MUTH Electives:			1013 Elementary II world language course	3
MUTH 3603	18th Century Counterpoint (Sp)		ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)	3
MUTH 3623	Music Perception (Even years, Sp)		MUTH 1603 Music Theory I (Sp) (grade of B or better)	3
MUTH 3723	Jazz Analysis (Irregular)		MUTH 1621 Aural Perception I (Sp)	1
MUTH 477V	Special Topics in Music Theory (Irregular)		MUAC 1221 Piano Class for Music Majors I (Sp)	1
MUTH 498V	Senior Thesis (Sp, Su, Fa) (3 Hours)	3	MUAP 110V Applied Major Voice/Instrument I (Sp, Fa)	2
MUAC 1221	Piano Class for Music Majors I (Sp) <sup>2</sup>	1	MUEN Music Ensemble I (see adviser)	1
MUAC 1231	Piano Class for Music Majors II (Fa) <sup>2</sup>	1	MLIT 1013 Music and Society (Sp, Fa) (as needed) or HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa) or HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)	3
MUAC 2221	Piano Class for Music Majors III (Sp) <sup>2</sup>	1	MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (or higher-level math)	3
MUAC 2231	Piano Class for Music Major IV (Fa) <sup>2</sup>	1	Year Total:	15 17
MUAC 2112	Music Technology (Sp, Su, Fa)	2		
MUHS 3703	History of Music to 1750 (Fa)	3		
MUHS 3713	History of Music from 1750 to Present (Sp)	3		
MUHS 4253	Special Topics in Music History (Sp, Fa)	3		
MUPD 3801	Conducting I (Fa)	1		
<b>Applied Major-Level Courses</b>		<b>16</b>		
MUAP 110V	Applied Major Voice/Instrument I (Sp, Fa)			
MUAP 130V	Applied Skills Voice/Instrument I (Sp, Fa)			
MUAP 210V	Applied Major Voice/Instrument II (Sp, Fa)			
MUAP 230V	Applied Skills Voice/Instrument II (Sp, Fa)			
MUAP 310V	Applied Major Voice/Instrument III (Sp, Fa)			
MUAP 330V	Applied Skills Voice/Instrument III (Sp, Fa)			
MUAP 410V	Applied Major Voice/Instrument IV (Sp, Fa)			
MUAP 415V	Applied Skills Voice/Instrument IV (Sp, Fa)			
MUEN 1411	Men's Chorus I (Sp, Fa) or MUEN 1591 Women's Chorus I (Sp, Fa)	1		
Ensemble (7 Hours; See adviser for ensemble selections)		7		
Total Hours		73		

<sup>1</sup> Students majoring in Theory must receive a grade of "B" or higher in MUTH 1603, MUTH 2603, and MUTH 3613.

<sup>2</sup> Demonstration of piano skills appropriate for a composer; see Piano Proficiency Requirement above.

## Music B.M., Music Theory Eight Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program, and should consult their music adviser for an eight-semester plan that is specific to their vocal, instrumental or theoretical emphasis area in music. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MUTH 1003 Basic Musicianship (Su, Fa) (if required or General Elective)*	3	

Second Year	Units	
	Fall	Spring
MUTH 2603 Music Theory II (Fa) (grade of B or better) <sup>†</sup>	3	
MUTH 1631 Aural Perception II (Fa)	1	
MUAC 1231 Piano Class for Music Majors II (Fa)	1	
MUAC 2112 Music Technology (Sp, Su, Fa) <sup>†</sup>	2	
MUAP 210V Applied Major Voice/Instrument II (Sp, Fa)	2	
MUEN Music Ensemble II (see adviser)	1	
Science University/state core lecture with corequisite lab requirement	4	
MUTH Upper-level Elective (see recommended list)		3
MUTH 3603 18th Century Counterpoint (Sp) <sup>†‡</sup> or MUTH 3623 Music Perception (Even years, Sp) or MUTH 3723 Jazz Analysis (Irregular) or MUTH 477V Special Topics in Music Theory (Irregular)		1
MUTH 2621 Aural Perception III (Sp) <sup>†</sup>		1
MUAC 2221 Piano Class for Music Majors III (Sp)		1
MUAP 210V Applied Major Voice/Instrument II (Sp, Fa)		2

MUEN Music Ensemble II (see adviser)		1	
MLIT 1013 Music and Society (Sp, Fa) (as needed) or HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)		3	
or HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)			
MUSY 2003 Music in World Cultures (Sp, Fa) or WLIT 1113 World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)		3	
Year Total:	14	14	

Third Year	Units	
	Fall	Spring
MUTH 3613 Form and 20th Century Techniques (Fa) (grade of B or better) <sup>††</sup>	3	
MUTH 2631 Aural Perception IV (Fa) <sup>††</sup>	1	
MUAC 2231 Piano Class for Music Major IV (Fa)	1	
MUHS 3703 History of Music to 1750 (Fa) <sup>††</sup>	3	
MUAP 310V Applied Major Voice/Instrument III (Sp, Fa) <sup>††</sup>	2	
MUTH Upper-level Elective (see recommended list)	3	
MUTH 3623 Music Perception (Even years, Sp) or MUTH 3723 Jazz Analysis (Irregular) or MUTH 477V Special Topics in Music Theory (Irregular)		
MUEN Music Ensemble III (see adviser) <sup>††</sup>	1	
MUPD 3801 Conducting I (Fa) <sup>††</sup>	1	
MUHS 3713 History of Music from 1750 to Present (Sp) <sup>††</sup>	3	
MUTH Upper-level Electives (see recommended list)	6	
MUTH 3603 18th Century Counterpoint (Sp) or MUTH 3623 Music Perception (Even years, Sp) or MUTH 3723 Jazz Analysis (Irregular) or MUTH 477V Special Topics in Music Theory (Irregular)		
MUAP 310V Applied Major Voice/Instrument III (Sp, Fa)	2	
MUEN Music Ensemble III (see adviser) <sup>††</sup>	1	
University/state core non-HIST social science or U.S. history requirement, as needed	3	
Year Total:	15	15

Fourth Year	Units	
	Fall	Spring
MUHS 4253 Special Topics in Music History (Sp, Fa) <sup>††</sup>	3	
Advanced Level Elective <sup>†</sup>	3	
MUAP 410V Applied Major Voice/Instrument IV (Sp, Fa) <sup>††</sup>	2	
MUEN Music Ensemble IV (see adviser) <sup>††</sup>	1	

Science University/state core lecture with corequisite lab requirement	4	
University/state core non-HIST social science or US history requirement, as needed	3	
MUTH 4612 Orchestration (Sp) <sup>††</sup>	2	
MUAP 410V Applied Major Voice/Instrument IV (Sp, Fa) <sup>††</sup>	2	
MUTH 498V Senior Thesis (Sp, Su, Fa)	3	
MUEN Music Ensemble IV (recommended, see adviser); or General Elective <sup>††</sup>	1	
General Electives	6	
Year Total:	16	14

Total Units in Sequence: 120

† Meets 40-hour advanced credit hour requirement.

‡ Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule.

## Requirements for a Major in Music leading to a Bachelor of Music Degree

In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the University Core requirements.

Students must complete:

A World Language Course at the 1013 Elementary II Level.	3
Bachelor of Music Degree students pursuing the Voice Performance Concentration must complete this language requirement in either French, German, or Italian.	
<b>HIST 1113</b> Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)	3
<b>HIST 1123</b> Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)	3
<b>MUSY 2003</b> Music in World Cultures (Sp, Fa) or <b>WLIT 1113</b> World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)	3

And all of the specific requirements for one of the following concentrations.<sup>1</sup>

<sup>1</sup> All students must complete two semesters of MUAP 110V with a grade of "A" or "B" and two semesters of MUAP 210V with a grade of "A" or "B" before enrolling in MUAP 310V.

### Music Education, Instrumental/Woodwind/Brass/Percussion Concentration

MLIT 1013 Music and Society (Sp, Fa)	3
MUTH 1603 Music Theory I (Sp)	3
MUTH 1621 Aural Perception I (Sp)	1
MUTH 1631 Aural Perception II (Fa)	1
MUTH 2603 Music Theory II (Fa)	3
MUTH 2621 Aural Perception III (Sp)	1
MUTH 2631 Aural Perception IV (Fa)	1
MUTH 3613 Form and 20th Century Techniques (Fa)	3

MUTH 4612	Orchestration (Sp)	2	MUEN 1491	Concert Band I (Sp)	
MUAC 1221	Piano Class for Music Majors I (Sp)	1	MUEN 2491	Concert Band II (Sp)	
MUAC 1231	Piano Class for Music Majors II (Fa)	1	MUEN 3491	Concert Band III (Sp)	
MUAC 2221	Piano Class for Music Majors III (Sp)	1	MUEN 4491	Concert Band IV (Sp)	
MUAC 2231	Piano Class for Music Major IV (Fa)	1	MUEN 4831	Concert Band V (Sp)	
MUAC 2112	Music Technology (Sp, Su, Fa)	2	MUEN 1481	Campus Band I (Sp)	
MUED 1371	Teaching the Beginning Percussionist (Sp, Fa)	1	MUEN 2481	Campus Band II (Sp)	
MUED 2532	Class Instruction in Woodwind Instruments (Sp)	2	MUEN 3481	Campus Band III (Sp)	
MUED 2542	Class Instruction in Brass Instruments (Sp)	2	MUEN 4481	Campus Band IV (Sp)	
MUED 2552	Class Instruction in Orchestral String Instruments (Fa)	2	MUEN 4681	Campus Band V (Sp)	
MUED 3911	Classroom Instruments in Music Education (Fa)	1	MUEN 1511	Symphonic Band I (Sp)	
MUHS 3703	History of Music to 1750 (Fa)	3	MUEN 2511	Symphonic Band II (Sp)	
MUHS 3713	History of Music from 1750 to Present (Sp)	3	MUEN 3511	Symphonic Band III (Sp)	
<b>Applied Instrument</b>		<b>14</b>	MUEN 4511	Symphonic Band IV (Sp)	
MUAP 110V	Applied Major Voice/Instrument I (Sp, Fa) (4 Hours)		MUEN 4811	Symphonic Band V (Sp)	
MUAP 210V	Applied Major Voice/Instrument II (Sp, Fa) (4 Hours)		MUED 2012	Introduction to Music Education (Sp)	2
MUAP 310V	Applied Major Voice/Instrument III (Sp, Fa) (4 Hours)		MUED 3021	Supervised Practicum in Teaching Musical Skills (Sp)	1
MUAP 410V	Applied Major Voice/Instrument IV (Sp, Fa) (1 Hour)		MUED 3833	Music Education in the Elementary School (Sp, Fa)	3
MUAP 3201	Applied Recital I (Sp, Fa)		MUED 4112	Pedagogy in Music Education (Fa)	2
MUEN 1411	Men's Chorus I (Sp, Fa)	1	MUED 4293	Instrumental Methods (Fa)	3
or MUEN 1591	Women's Chorus I (Sp, Fa)		MUPD 3801	Conducting I (Fa)	1
Select two of the following:		2	MUPD 3811	Conducting II: Instrumental Music (Sp)	1
MUEN 1441	Marching Band I (Fa)		Total Hours		73
MUEN 2441	Marching Band II (Fa)				
MUEN 3441	Marching Band III (Fa)				
MUEN 4441	Marching Band IV (Fa)				
MUEN 4941	Marching Band V (Fa)				
Select five of the following:		5			
MUEN 1431	Symphony Orchestra I (Sp, Fa)				
MUEN 2431	Symphony Orchestra II (Sp, Fa)				
MUEN 3431	Symphony Orchestra III (Sp, Fa)				
MUEN 4431	Symphony Orchestra IV (Sp, Fa)				
MUEN 4631	Symphony Orchestra V (Sp, Fa)				
MUEN 1441	Marching Band I (Fa)				
MUEN 2441	Marching Band II (Fa)				
MUEN 3441	Marching Band III (Fa)				
MUEN 4441	Marching Band IV (Fa)				
MUEN 4941	Marching Band V (Fa)				
MUEN 1691	Wind Ensemble I (Sp, Fa)				
MUEN 2691	Wind Ensemble II (Sp, Fa)				
MUEN 3691	Wind Ensemble III (Sp, Fa)				
MUEN 4691	Wind Ensemble IV (Sp, Fa)				
MUEN 4861	Wind Ensemble V (Sp, Fa)				
MUEN 1461	Wind Symphony I (Sp, Fa)				
MUEN 2461	Wind Symphony II (Sp, Fa)				
MUEN 3461	Wind Symphony III (Sp, Fa)				
MUEN 4461	Wind Symphony IV (Sp, Fa)				
MUEN 4661	Wind Symphony V (Sp, Fa)				

Students who wish to apply for admission to the internship program in music education must complete the following stages.

### Stage I: Complete an Evaluation for Internship

Students must meet the following criteria to be cleared for the internship:

1. Declare the major in music education in the Fulbright Advising Center, 518 Old Main.
2. Successful completion of the PRAXIS I test by meeting or exceeding the Arkansas Department of Education cut-off scores. This test should be taken after the student has completed 30 credit hours and upon completion of ENGL 1013, ENGL 1023, and MATH 1203.
3. Obtain a "C" or better in the following pre-education core courses: CIED 3023, CIED 3033. (PSYC 2003 is a prerequisite.)
4. Obtain a "C" or better in MUED 2012, MUED 3021, MUED 3833, MUED 4112, and one of MUED 4273, or MUED 4283, or MUED 4293.
5. Submit an online application to teach education (see the Teacher Education Application Fee). The evaluation form must be completed by October 1 prior to doing a fall internship or March 1 prior to doing a spring internship. The completed form must be returned to the Teacher Education Office, Graduate Education Building Room 339, no later than the stated deadline.
6. Complete the B.M. degree with a cumulative GPA of 2.75 or higher. The degree must be eligible to be posted to your University of Arkansas transcript at the Registrar's Office prior to internship.
7. Obtain departmental clearance for internship based on successful completion of portfolios, evaluation for internship, GPA requirements, course work requirements, selected written recommendations, an interview, and/or other requirements specified by your program.

All requirements in Stage I must be met to be cleared for the internship. Please contact the Director of Field Placement and Licensure, Graduate

Education Building Room 339, College of Education and Health Professions for more information.

### Stage II: Internship

1. Complete the one-semester internship at an approved site in Washington or Benton counties.
2. Complete PRAXIS II requirements if planning to apply for Arkansas Licensure (recommended, but not required for degree completion). See your adviser for completion dates.

NOTE: Students should always consult the Licensure Officer, Graduate Education Building Room 338, for any licensure requirement changes. Students will not be licensed to teach in Arkansas until they have met all requirements for licensure as set forth by the Arkansas Department of Education.

Usually licensure in another state is facilitated by acquiring a license in Arkansas. An application in another state must be made on the application form of that state, which can be obtained by request from the State Teacher Licensure office in the capital city. An official transcript should accompany the application. In many instances the applications are referred to the Licensure Officer, Graduate Education Building Room 338.

## Music B.M., Music Education-Instrumental, Woodwind, Brass, Percussion Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program, and should consult their music adviser for an eight-semester plan that is specific to their vocal, instrumental or theoretical emphasis area in music. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MUTH 1003 Basic Musicianship (Su, Fa) (if required, else General Elective)	3	
MUAP 110V Applied Major Voice/Instrument I (Sp, Fa)	2	
MUEN 1411 Men's Chorus I (Sp, Fa) or MUEN 1591 Women's Chorus I (Sp, Fa)	1	
MUEN 1441 Marching Band I (Fa)	1	
MLIT 1013 Music and Society (Sp, Fa) (or 1013 Elementary II world language course)	3	
General Elective	1	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
MUTH 1603 Music Theory I (Sp)		3
MUTH 1621 Aural Perception I (Sp)		1
MUAC 1221 Piano Class for Music Majors I (Sp)		1
MUAP 110V Applied Major Voice/Instrument I (Sp, Fa)		2
MUEN Music Ensemble I (see adviser)		1
Select one of the following as needed:		3

1013 Elementary II world language course

MLIT 1013 Music and Society (Sp, Fa)

Year Total: 14 14

Second Year	Units	
	Fall	Spring
MUTH 2603 Music Theory II (Fa) <sup>1</sup>	3	
MUTH 1631 Aural Perception II (Fa)	1	
MUAC 1231 Piano Class for Music Majors II (Fa)	1	
MUAP 210V Applied Major Voice/Instrument II (Sp, Fa)	2	
MUEN 2441 Marching Band II (Fa)	1	
HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)	3	
MUED 2552 Class Instruction in Orchestral String Instruments (Fa)	2	
PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)	3	
MUTH 2621 Aural Perception III (Sp) <sup>1</sup>		1
MUAC 2221 Piano Class for Music Majors III (Sp)		1
MUAP 210V Applied Major Voice/Instrument II (Sp, Fa)		2
MUEN Music Ensemble II (see adviser)		1
MUED 2542 Class Instruction in Brass Instruments (Sp)		2
MUAC 2112 Music Technology (Sp, Su, Fa)		2
HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)		3
MUED 2012 Introduction to Music Education (Sp)		2
General Elective		1
Year Total:	16	15

Third Year	Units	
	Fall	Spring
MUTH 3613 Form and 20th Century Techniques (Fa) <sup>2</sup>	3	
MUTH 2631 Aural Perception IV (Fa) <sup>1</sup>	1	
MUAC 2231 Piano Class for Music Major IV (Fa)	1	
MUHS 3703 History of Music to 1750 (Fa) <sup>2</sup>	3	
MUAP 310V Applied Major Voice/Instrument III (Sp, Fa) <sup>2</sup>	2	
MUEN Music Ensemble III (see adviser) <sup>2</sup>	1	
MUPD 3801 Conducting I (Fa) <sup>2</sup>	1	
MUED 1371 Teaching the Beginning Percussionist (Sp, Fa)	1	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3	
MUTH 4612 Orchestration (Sp) <sup>2</sup>		2
MUHS 3713 History of Music from 1750 to Present (Sp) <sup>2</sup>		3
MUAP 310V Applied Major Voice/Instrument III (Sp, Fa) <sup>2</sup>		2

MUEN Music Ensemble III (see adviser) <sup>2</sup>	1	
MUPD 3811 Conducting II: Instrumental Music (Sp) <sup>2</sup>	1	
MUED 2532 Class Instruction in Woodwind Instruments (Sp)	2	
MUED 3021 Supervised Practicum in Teaching Musical Skills (Sp) <sup>2</sup>	1	
MUED 3833 Music Education in the Elementary School (Sp, Fa)	3	
Year Total:	16	15

Fourth Year	Units	
	Fall	Spring
MUAP 410V Applied Major Voice/Instrument IV (Sp, Fa) <sup>2</sup>	1	
MUAP 3201 Applied Recital I (Sp, Fa)	1	
MUED 3911 Classroom Instruments in Music Education (Fa)	1	
MUED 4112 Pedagogy in Music Education (Fa) <sup>2</sup>	2	
MUED 4293 Instrumental Methods (Fa) <sup>2</sup>	3	
MUEN Music Ensemble IV (see adviser) <sup>2</sup>	1	
Science University/State Core Lecture with Corequisite Lab requirement	4	
Select one of the following:	3	
CIED 3023 Survey of Exceptionalities (Sp, Su, Fa)		
CIED 3033 Classroom Learning Theory (Sp, Su, Fa)		
MUEN Music Ensemble IV (recommended; see adviser), or General Elective <sup>2</sup>	1	
Select one of the following as needed:	3	
CIED 3023 Survey of Exceptionalities (Sp, Su, Fa) <sup>1</sup>		
CIED 3033 Classroom Learning Theory (Sp, Su, Fa) <sup>1</sup>		
Science University/State Core Lecture with Corequisite Lab requirement	4	
University/State Core US History requirement	3	
Humanities requirement (MUSY 2003 or WLIT 1113)	3	
Year Total:	16	14
Total Units in Sequence:		120

Note: Licensure for teaching in the state of Arkansas requires one additional semester of internship beyond and after the completion of degree requirements. The courses required during the semester of internship are MUED 4031 Seminar for Professional Entry into Music Education, MUED 451V (4 or 8 hours) Student Teaching: Elementary Music, and MUED 452V (8 hours) Student Teaching: Secondary Music.

<sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations (p. 183).

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations (p. 183).

## Requirements for a Major in Music leading to a Bachelor of Music Degree

In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the University Core requirements.

Students must complete:

A World Language Course at the 1013 Elementary II Level.	3
Bachelor of Music Degree students pursuing the Voice Performance Concentration must complete this language requirement in either French, German, or Italian.	
<b>HIST 1113</b> Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)	3
<b>HIST 1123</b> Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)	3
<b>MUSY 2003</b> Music in World Cultures (Sp, Fa)	3
or <b>WLIT 1113</b> World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)	

And all of the specific requirements for one of the following concentrations.<sup>1</sup>

<sup>1</sup> All students must complete two semesters of MUAP 110V with a grade of "A" or "B" and two semesters of MUAP 210V with a grade of "A" or "B" before enrolling in MUAP 310V.

### Music Education, Instrumental/Strings Concentration

<b>MLIT 1013</b> Music and Society (Sp, Fa)	3
<b>MUTH 1603</b> Music Theory I (Sp)	3
<b>MUTH 1621</b> Aural Perception I (Sp)	1
<b>MUTH 1631</b> Aural Perception II (Fa)	1
<b>MUTH 2603</b> Music Theory II (Fa)	3
<b>MUTH 2621</b> Aural Perception III (Sp)	1
<b>MUTH 2631</b> Aural Perception IV (Fa)	1
<b>MUTH 3613</b> Form and 20th Century Techniques (Fa)	3
<b>MUTH 4612</b> Orchestration (Sp)	2
<b>MUAC 1221</b> Piano Class for Music Majors I (Sp)	1
<b>MUAC 1231</b> Piano Class for Music Majors II (Fa)	1
<b>MUAC 2221</b> Piano Class for Music Majors III (Sp)	1
<b>MUAC 2231</b> Piano Class for Music Major IV (Fa)	1
<b>MUAC 2112</b> Music Technology (Sp, Su, Fa)	2
<b>MUED 1371</b> Teaching the Beginning Percussionist (Sp, Fa)	1
<b>MUED 2532</b> Class Instruction in Woodwind Instruments (Sp)	2
<b>MUED 2542</b> Class Instruction in Brass Instruments (Sp)	2
<b>MUED 2552</b> Class Instruction in Orchestral String Instruments (Fa)	2
<b>MUED 3911</b> Classroom Instruments in Music Education (Fa)	1
<b>MUHS 3703</b> History of Music to 1750 (Fa)	3
<b>MUHS 3713</b> History of Music from 1750 to Present (Sp)	3
<b>Applied Strings</b>	14



MUAP 110V	Applied Major Voice/Instrument I (Sp, Fa) (4 Hours)	
MUAP 210V	Applied Major Voice/Instrument II (Sp, Fa) (4 Hours)	
MUAP 310V	Applied Major Voice/Instrument III (Sp, Fa) (4 Hours)	
MUAP 410V	Applied Major Voice/Instrument IV (Sp, Fa) (1 Hour)	
MUAP 3201	Applied Recital I (Sp, Fa)	
MUEN 1411	Men's Chorus I (Sp, Fa)	1
	or MUEN 1591 Women's Chorus I (Sp, Fa)	
Select seven of the following:		7
MUEN 1431	Symphony Orchestra I (Sp, Fa)	
MUEN 2431	Symphony Orchestra II (Sp, Fa)	
MUEN 3431	Symphony Orchestra III (Sp, Fa)	
MUEN 4431	Symphony Orchestra IV (Sp, Fa)	
MUEN 4631	Symphony Orchestra V (Sp, Fa)	
MUED 2012	Introduction to Music Education (Sp)	2
MUED 3021	Supervised Practicum in Teaching Musical Skills (Sp)	1
MUED 3833	Music Education in the Elementary School (Sp, Fa)	3
MUED 4112	Pedagogy in Music Education (Fa)	2
MUED 4273	Methods for Teaching String Instruments (Odd years, Fa)	3
MUPD 3801	Conducting I (Fa)	1
MUPD 3811	Conducting II: Instrumental Music (Sp)	1
Total Hours		73

Students who wish to apply for admission to the internship program in music education must complete the following stages.

### Stage I: Complete an Evaluation for Internship

Students must meet the following criteria to be cleared for the internship:

1. Declare the major in music education in the Fulbright Advising Center, 518 Old Main.
2. Successful completion of the PRAXIS I test by meeting or exceeding the Arkansas Department of Education cut-off scores. This test should be taken after the student has completed 30 credit hours and upon completion of ENGL 1013, ENGL 1023, and MATH 1203.
3. Obtain a "C" or better in the following pre-education core courses: CIED 3023, CIED 3033. (PSYC 2003 is a prerequisite.)
4. Obtain a "C" or better in MUED 2012, MUED 3021, MUED 3833, MUED 4112, and one of MUED 4273, or MUED 4283, or MUED 4293.
5. Submit an online application to teach education (see the Teacher Education Application Fee). The evaluation form must be completed by October 1 prior to doing a fall internship or March 1 prior to doing a spring internship. The completed form must be returned to the Teacher Education Office, Graduate Education Building Room 339, no later than the stated deadline.
6. Complete the B.M. degree with a cumulative GPA of 2.75 or higher. The degree must be eligible to be posted to your University of Arkansas transcript at the Registrar's Office prior to internship.
7. Obtain departmental clearance for internship based on successful completion of portfolios, evaluation for internship, GPA requirements,

course work requirements, selected written recommendations, an interview, and/or other requirements specified by your program.

All requirements in Stage I must be met to be cleared for the internship. Please contact the Director of Field Placement and Licensure, Graduate Education Building Room 339, College of Education and Health Professions for more information.

### Stage II: Internship

1. Complete the one-semester internship at an approved site in Washington or Benton counties.
2. Complete PRAXIS II requirements if planning to apply for Arkansas Licensure (recommended, but not required for degree completion). See your adviser for completion dates.

NOTE: Students should always consult the Licensure Officer, Graduate Education Building Room 338, for any licensure requirement changes. Students will not be licensed to teach in Arkansas until they have met all requirements for licensure as set forth by the Arkansas Department of Education.

Usually licensure in another state is facilitated by acquiring a license in Arkansas. An application in another state must be made on the application form of that state, which can be obtained by request from the State Teacher Licensure office in the capital city. An official transcript should accompany the application. In many instances the applications are referred to the Licensure Officer, Graduate Education Building Room 338.

## Music B.M., Music Education-Instrumental-Strings Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program, and should consult their music adviser for an eight-semester plan that is specific to their vocal, instrumental or theoretical emphasis area in music. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MUTH 1003 Basic Musicianship (Su, Fa) (if required or General Elective)	3	
MUAP 110V Applied Major Voice/Instrument I (Sp, Fa)	2	
MUEN 1411 Men's Chorus I (Sp, Fa) or MUEN 1591 Women's Chorus I (Sp, Fa)	1	
MUEN 1431 Symphony Orchestra I (Sp, Fa) (guitar students seen adviser)	1	
MLIT 1013 Music and Society (Sp, Fa) (or 1013 Elementary II world language course)	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
MUTH 1603 Music Theory I (Sp)		3
MUTH 1621 Aural Perception I (Sp)		1
MUAC 1221 Piano Class for Music Majors I (Sp)		1

MUAP 110V Applied Major Voice/Instrument I (Sp, Fa)	2	MUED 3833 Music Education in the Elementary School (Sp, Fa) <sup>1,2</sup>	3
MUEN 1431 Symphony Orchestra I (Sp, Fa) (guitar students see adviser)	1	or MUED 4273 Methods for Teaching String Instruments (Odd years, Fa)	
1013 Elementary II world language course or MLIT	3	MUTH 4612 Orchestration (Sp) <sup>1,2</sup>	2
1013 Music lecture for Music Majors (as needed)		MUHS 3713 History of Music from 1750 to Present (Sp) <sup>1,2</sup>	3
Year Total:	13	14	
<b>Second Year</b>			
	<b>Fall</b>	<b>Units Spring</b>	
MUTH 2603 Music Theory II (Fa) <sup>1</sup>	3	MUEN 3431 Symphony Orchestra III (Sp, Fa) (guitar students see adviser)	1
MUTH 1631 Aural Perception II (Fa)	1	MUED 2532 Class Instruction in Woodwind Instruments (Sp) (as needed)	2
MUAC 1231 Piano Class for Music Majors II (Fa)	1	or MUED 2542 Class Instruction in Brass Instruments (Sp)	
MUAC 2112 Music Technology (Sp, Su, Fa) <sup>1</sup>	2	MUED 3021 Supervised Practicum in Teaching Musical Skills (Sp) <sup>1,2</sup>	1
MUAP 210V Applied Major Voice/Instrument II (Sp, Fa)	2	MUPD 3811 Conducting II: Instrumental Music (Sp) <sup>1,2</sup>	1
MUEN 2431 Symphony Orchestra II (Sp, Fa) (guitar students see adviser)	1	CIED 3023 Survey of Exceptionalities (Sp, Su, Fa) (as needed) <sup>1</sup>	3
MUED 2552 Class Instruction in Orchestral String Instruments (Fa)	2	or CIED 3033 Classroom Learning Theory (Sp, Su, Fa)	
HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)	3	Year Total:	16 15
MUTH 2621 Aural Perception III (Sp) <sup>1</sup>	1	<b>Fourth Year</b>	
MUAC 2221 Piano Class for Music Majors III (Sp)	1		<b>Fall Spring</b>
MUAP 210V Applied Major Voice/Instrument II (Sp, Fa)	2	MUAP 410V Applied Major Voice/Instrument IV (Sp, Fa)	2
MUEN 2431 Symphony Orchestra II (Sp, Fa) (guitar students see adviser)	1	& MUAP 3201 Applied Recital I (Sp, Fa) <sup>1,2</sup>	
MUED 2532 Class Instruction in Woodwind Instruments (Sp)	2	MUED 3911 Classroom Instruments in Music Education (Fa) <sup>1,2</sup>	1
or MUED 2542 Class Instruction in Brass Instruments (Sp)		MUED 4112 Pedagogy in Music Education (Fa) <sup>1,2</sup>	2
MUED 2012 Introduction to Music Education (Sp)	2	MUED 4273 Methods for Teaching String Instruments (Odd years, Fa) <sup>1,2</sup>	3
HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)	3	or MUED 3833 Music Education in the Elementary School (Sp, Fa)	
PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)	3	MUEN 4431 Symphony Orchestra IV (Sp, Fa) (recommended (guitar students see adviser), or General Elective) <sup>1,2</sup>	1
Year Total:	15	15	
<b>Third Year</b>			
	<b>Fall</b>	<b>Units Spring</b>	
MUTH 3613 Form and 20th Century Techniques (Fa) <sup>1,2</sup>	3	Science university/state core lecture with corequisite lab requirement	4
MUTH 2631 Aural Perception IV (Fa) <sup>1</sup>	1	University/state core U.S. history or humanities requirement (MUSY 2003 or WLIT 1113)	3
MUAC 2231 Piano Class for Music Major IV (Fa)	1	CIED 3023 Survey of Exceptionalities (Sp, Su, Fa) (as needed) <sup>1</sup>	3
MUHS 3703 History of Music to 1750 (Fa) <sup>1,2</sup>	3	or CIED 3033 Classroom Learning Theory (Sp, Su, Fa)	
MUAP 310V Applied Major Voice/Instrument III (Sp, Fa) <sup>1,2</sup>	2	MUEN 4431 Symphony Orchestra IV (Sp, Fa) (recommended, guitar students see adviser; or General Elective)	1
MUEN 3431 Symphony Orchestra III (Sp, Fa) (guitar students see adviser) <sup>1,2</sup>	1	Science university/state core lecture with corequisite lab requirement	4
MUED 1371 Teaching the Beginning Percussionist (Sp, Fa)	1	University/state core U.S. history or humanities requirement (MUSY 2003 or WLIT 1113), as needed	3
MUPD 3801 Conducting I (Fa) <sup>1,2</sup>	1		

MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (or higher-level math)	3
General Elective	2
Year Total:	16
<hr/>	
Total Units in Sequence:	120

Licensure for teaching in the State of Arkansas requires one additional semester of internship beyond and after the completion of the degree requirements. The courses required during the semester of internship are MUED 4031 Seminar for Professional Entry into Music Education (Sp, Fa), MUED 451V Student Teaching: Elementary Music (Sp, Fa), and MUED 452V Student Teaching: Secondary Music (Sp, Fa) (4 or 8 hours).

<sup>1</sup> Meets 40-hour advanced credit hour requirement.

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule.

## Requirements for a Major in Music leading to a Bachelor of Music Degree

In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the University Core requirements.

Students must complete:

A World Language Course at the 1013 Elementary II Level. Bachelor of Music Degree students pursuing the Voice Performance Concentration must complete this language requirement in either French, German, or Italian.	3
HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)	3
HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)	3
MUSY 2003 Music in World Cultures (Sp, Fa) or WLIT 1113 World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)	3

And all of the specific requirements for one of the following concentrations.<sup>1</sup>

<sup>1</sup> All students must complete two semesters of MUAP 110V with a grade of "A" or "B" and two semesters of MUAP 210V with a grade of "A" or "B" before enrolling in MUAP 310V.

### Music Education, Choral/Voice Concentration

MLIT 1013 Music and Society (Sp, Fa)	3
MUTH 1603 Music Theory I (Sp)	3
MUTH 1621 Aural Perception I (Sp)	1
MUTH 1631 Aural Perception II (Fa)	1
MUTH 2603 Music Theory II (Fa)	3
MUTH 2621 Aural Perception III (Sp)	1
MUTH 2631 Aural Perception IV (Fa)	1
MUTH 3613 Form and 20th Century Techniques (Fa)	3
MUTH 4612 Orchestration (Sp)	2
MUAC 1121 English and Italian Diction for Singers (Fa)	1
MUAC 1141 German and French Diction for Singers (Sp)	1

MUAC 1221 Piano Class for Music Majors I (Sp)	1
MUAC 1231 Piano Class for Music Majors II (Fa)	1
MUAC 2221 Piano Class for Music Majors III (Sp)	1
MUAC 2231 Piano Class for Music Major IV (Fa)	1
MUAC 2112 Music Technology (Sp, Su, Fa)	2
MUED 3911 Classroom Instruments in Music Education (Fa)	1
Two hours selected from the following:	2
MUAC 1321 Class Instruction in Guitar (Sp, Fa)	
MUED 1371 Teaching the Beginning Percussionist (Sp, Fa)	
MUED 2532 Class Instruction in Woodwind Instruments (Sp)	
MUED 2542 Class Instruction in Brass Instruments (Sp)	
MUED 2552 Class Instruction in Orchestral String Instruments (Fa)	
MUHS 3703 History of Music to 1750 (Fa)	3
MUHS 3713 History of Music from 1750 to Present (Sp)	3
<b>Applied Voice</b>	<b>11</b>

MUAP 110V Applied Major Voice/Instrument I (Sp, Fa) (2 Hours)	
MUAP 210V Applied Major Voice/Instrument II (Sp, Fa) (3 Hours)	
MUAP 310V Applied Major Voice/Instrument III (Sp, Fa) (4 Hours)	
MUAP 410V Applied Major Voice/Instrument IV (Sp, Fa) (1 Hour)	
MUAP 3201 Applied Recital I (Sp, Fa)	

Select eight of the following:	8
MUEN 1411 Men's Chorus I (Sp, Fa)	
MUEN 2411 Men's Chorus II (Sp, Fa)	
MUEN 3411 Men's Chorus III (Sp, Fa)	
MUEN 4411 Men's Chorus IV (Sp, Fa)	
MUEN 4611 Men's Chorus V (Sp, Fa)	
MUEN 1591 Women's Chorus I (Sp, Fa)	
MUEN 2591 Women's Chorus II (Sp, Fa)	
MUEN 3591 Women's Chorus III (Sp, Fa)	
MUEN 4591 Women's Chorus IV (Sp, Fa)	
MUEN 4891 Women's Chorus V (Sp, Fa)	
MUEN 1451 Schola Cantorum I (Sp, Fa)	
MUEN 2451 Schola Cantorum II (Sp, Fa)	
MUEN 3451 Schola Cantorum III (Sp, Fa)	
MUEN 4451 Schola Cantorum IV (Sp, Fa)	
MUEN 4651 Schola Cantorum V (Sp, Fa)	

MUAP 1001 Applied Secondary-Level Voice/Instrument I (Sp, Fa) (Piano; taken twice)	2
One MUAP/MUAC by Advisement	1
MUPD 3801 Conducting I (Fa)	1
MUPD 3861 Conducting II: Vocal Music (Sp)	1
MUED 2012 Introduction to Music Education (Sp)	2
MUED 3021 Supervised Practicum in Teaching Musical Skills (Sp)	1
MUED 3833 Music Education in the Elementary School (Sp, Fa)	3
MUED 4112 Pedagogy in Music Education (Fa)	2

MUED 4283	Teaching Vocal Music (Even years, Fa)	3
Total Hours		70

Students who wish to apply for admission to the internship program in music education must complete the following stages.

### Stage I: Complete an Evaluation for Internship

Students must meet the following criteria to be cleared for the internship:

1. Declare the major in music education in the Fulbright Advising Center, 518 Old Main.
2. Successful completion of the PRAXIS I test by meeting or exceeding the Arkansas Department of Education cut-off scores. This test should be taken after the student has completed 30 credit hours and upon completion of ENGL 1013, ENGL 1023, and MATH 1203.
3. Obtain a "C" or better in the following pre-education core courses: CIED 3023, CIED 3033. (PSYC 2003 is a prerequisite.)
4. Obtain a "C" or better in MUED 2012, MUED 3021, MUED 3833, MUED 4112, and one of MUED 4273, or MUED 4283, or MUED 4293.
5. Submit an online application to teach education (see the Teacher Education Application Fee). The evaluation form must be completed by October 1 prior to doing a fall internship or March 1 prior to doing a spring internship. The completed form must be returned to the Teacher Education Office, Graduate Education Building Room 339, no later than the stated deadline.
6. Complete the B.M. degree with a cumulative GPA of 2.75 or higher. The degree must be eligible to be posted to your University of Arkansas transcript at the Registrar's Office prior to internship.
7. Obtain departmental clearance for internship based on successful completion of portfolios, evaluation for internship, GPA requirements, course work requirements, selected written recommendations, an interview, and/or other requirements specified by your program.

All requirements in Stage I must be met to be cleared for the internship. Please contact the Director of Field Placement and Licensure, Graduate Education Building Room 339, College of Education and Health Professions for more information.

### Stage II: Internship

1. Complete the one-semester internship at an approved site in Washington or Benton counties.
2. Complete PRAXIS II requirements if planning to apply for Arkansas Licensure (recommended, but not required for degree completion). See your adviser for completion dates.

NOTE: Students should always consult the Licensure Officer, Graduate Education Building Room 338, for any licensure requirement changes. Students will not be licensed to teach in Arkansas until they have met all requirements for licensure as set forth by the Arkansas Department of Education.

Usually licensure in another state is facilitated by acquiring a license in Arkansas. An application in another state must be made on the application form of that state, which can be obtained by request from the State Teacher Licensure office in the capital city. An official transcript should accompany the application. In many instances the applications are referred to the Licensure Officer, Graduate Education Building Room 338.

## Music B.M., Music Education-Choral/Voice Eight Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program, and should consult their music adviser for an eight-semester plan that is specific to their vocal, instrumental or theoretical emphasis area in music. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MUTH 1003 Basic Musicianship (Su, Fa) (if required, or General Elective)	3	
MUAP 110V Applied Major Voice/Instrument I (Sp, Fa) (Voice)	1	
MUEN 1411 Men's Chorus I (Sp, Fa) or MUEN 1451 Schola Cantorum I (Sp, Fa) or MUEN 1591 Women's Chorus I (Sp, Fa)	1	
MUAC 1121 English and Italian Diction for Singers (Fa)	1	
MLIT 1013 Music and Society (Sp, Fa) (or 1013 Elementary II world language course)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (or higher-level math)	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
MUTH 1603 Music Theory I (Sp)		3
MUTH 1621 Aural Perception I (Sp)		1
MUAC 1221 Piano Class for Music Majors I (Sp)		1
MUAP 110V Applied Major Voice/Instrument I (Sp, Fa) (Voice)		1
MUEN 1411 Men's Chorus I (Sp, Fa) or MUEN 1451 Schola Cantorum I (Sp, Fa) or MUEN 1591 Women's Chorus I (Sp, Fa)		1
MUAC 1141 German and French Diction for Singers (Sp)		1
1013 Elementary II world language course or MLIT 1013 Music Lecture for Music Majors (as needed)		3
Year Total:	15	14

Second Year	Units	
	Fall	Spring
MUTH 2603 Music Theory II (Fa) <sup>1</sup>	3	
MUTH 1631 Aural Perception II (Fa)	1	
MUAC 1231 Piano Class for Music Majors II (Fa)	1	
MUAC 2112 Music Technology (Sp, Su, Fa)	2	
MUAP 210V Applied Major Voice/Instrument II (Sp, Fa) (Voice)	2	
MUEN 2411 Men's Chorus II (Sp, Fa) or MUEN 2451 Schola Cantorum II (Sp, Fa) or MUEN 2591 Women's Chorus II (Sp, Fa)	1	

HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)	3		MUAP 310V Applied Major Voice/Instrument III (Sp, Fa) <sup>1,2</sup>	2
PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)	3		MUEN 3411 Men's Chorus III (Sp, Fa) (or MUEN 3591 Women's Chorus III) <sup>1,2</sup>	1
MUTH 2621 Aural Perception III (Sp) <sup>1</sup>	1		or MUEN 3451 Schola Cantorum III (Sp, Fa)	
MUAC 2221 Piano Class for Music Majors III (Sp)	1		MUPD 3861 Conducting II: Vocal Music (Sp)	1
MUAP 210V Applied Major Voice/Instrument II (Sp, Fa) (Voice)	1		MUED 3021 Supervised Practicum in Teaching Musical Skills (Sp) <sup>1,2</sup>	1
MUEN 2411 Men's Chorus II (Sp, Fa)	1		MUAP 1001 Applied Secondary-Level Voice/Instrument I (Sp,Fa) (Piano)	1
or MUEN 2451 Schola Cantorum II (Sp, Fa)			or MUAP 2001 Applied Secondary-Level Voice/Instrument II (Sp, Fa)	
or MUEN 2591 Women's Chorus II (Sp, Fa)			or MUAP 3001 Applied Secondary-Level Voice/Instrument III (Sp, Fa)	
MUED 2012 Introduction to Music Education (Sp)	2		MUED 3833 Music Education in the Elementary School (Sp, Fa)	3
2 hours of MUAC or MUED class instrument courses selected from the following:	2		Year Total:	16 14
MUAC 1321 Class Instruction in Guitar (Sp, Fa)				
MUED 1371 Teaching the Beginning Percussionist (Sp, Fa)				
MUED 2532 Class Instruction in Woodwind Instruments (Sp)				
MUED 2542 Class Instruction in Brass Instruments (Sp)				
MUED 2552 Class Instruction in Orchestral String Instruments (Fa)				
HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)	3			
General Elective	3			
Year Total:	16	14		
<b>Third Year</b>			<b>Fourth Year</b>	
				<b>Units</b>
				<b>Fall Spring</b>
MUTH 3613 Form and 20th Century Techniques (Fa) <sup>1,2</sup>	3		MUAP 410V Applied Major Voice/Instrument IV (Sp, Fa) (Voice) <sup>1,2</sup>	1
MUTH 2631 Aural Perception IV (Fa) <sup>1</sup>	1		MUAP 3201 Applied Recital I (Sp, Fa)	1
MUAC 2231 Piano Class for Music Major IV (Fa)	1		MUED 3911 Classroom Instruments in Music Education (Fa) ((as needed)) <sup>1,2</sup>	1
MUHS 3703 History of Music to 1750 (Fa) <sup>1,2</sup>	3		or CIED 3023 Survey of Exceptionalities (Sp, Su, Fa)	
MUAP 310V Applied Major Voice/Instrument III (Sp, Fa) (Voice) <sup>1,2</sup>	2		MUED 4112 Pedagogy in Music Education (Fa) <sup>1,2</sup>	2
MUEN 3411 Men's Chorus III (Sp, Fa) (or MUEN 3591 Women's Chorus III) <sup>1,2</sup>	1		MUED 4283 Teaching Vocal Music (Even years, Fa) <sup>1,2</sup>	3
or MUEN 3451 Schola Cantorum III (Sp, Fa)			MUEN 4411 Men's Chorus IV (Sp, Fa) <sup>1,2</sup>	1
MUPD 3801 Conducting I (Fa) <sup>1,2</sup>	1		or MUEN 4451 Schola Cantorum IV (Sp, Fa)	
MUAP 1001 Applied Secondary-Level Voice/Instrument I (Sp,Fa) (Piano)	1		or MUEN 4591 Women's Chorus IV (Sp, Fa)	
or MUAP 2001 Applied Secondary-Level Voice/Instrument II (Sp, Fa)			MUAP or MUAC Applied Secondary Voice/Instrument (see adviser) Piano generally recommended	1
or MUAP 3001 Applied Secondary-Level Voice/Instrument III (Sp, Fa)			Science university/state core lecture with corequisite lab requirement	4
MUED 4283 Teaching Vocal Music (Even years, Fa)	3		University/state core U.S. history or humanities requirement (MUSY 2003 or WLIT 1113)	3
or CIED 3023 Survey of Exceptionalities (Sp, Su, Fa)			MUEN 4411 Men's Chorus IV (Sp, Fa) <sup>1,2</sup>	1
MUTH 4612 Orchestration (Sp) <sup>1,2</sup>	2		or MUEN 4451 Schola Cantorum IV (Sp, Fa)	
MUHS 3713 History of Music from 1750 to Present (Sp) <sup>1,2</sup>	3		or MUEN 4591 Women's Chorus IV (Sp, Fa)	
			CIED 3033 Classroom Learning Theory (Sp, Su, Fa) <sup>1</sup>	3
			MUAP or MUAC Applied Secondary Voice/Instrument (see adviser) Piano generally recommended	1
			Science university/state core lecture with corequisite lab requirement	4
			University/state core U.S. history or humanities requirement (MUSY 2003 or WLIT 1113), as needed	3
			General Elective	2
			Year Total:	17 14

Total Units in Sequence: 120

Licensure for teaching in the State of Arkansas requires one additional semester of internship beyond and after the completion of the degree requirements. The courses required during the semester of internship are MUED 4031 Seminar for Professional Entry into Music Education (Sp, Fa), MUED 451V Student Teaching: Elementary Music (Sp, Fa), and MUED 452V Student Teaching: Secondary Music (Sp, Fa) (4 or 8 hours).

<sup>1</sup> Meets 40-hour advanced credit hour requirement.

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule.

## Requirements for a Major in Music leading to a Bachelor of Music Degree

In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the University Core requirements.

Students must complete:

A World Language Course at the 1013 Elementary II Level. Bachelor of Music Degree students pursuing the Voice Performance Concentration must complete this language requirement in either French, German, or Italian. 3

HIST 1113	Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)	3
HIST 1123	Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)	3
MUSY 2003	Music in World Cultures (Sp, Fa)	3
or WLIT 1113	World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)	

And all of the specific requirements for one of the following concentrations.<sup>1</sup>

<sup>1</sup> All students must complete two semesters of MUAP 110V with a grade of "A" or "B" and two semesters of MUAP 210V with a grade of "A" or "B" before enrolling in MUAP 310V.

### Music Education, Choral/Piano Concentration

MLIT 1013	Music and Society (Sp, Fa)	3
MUTH 1603	Music Theory I (Sp)	3
MUTH 1621	Aural Perception I (Sp)	1
MUTH 1631	Aural Perception II (Fa)	1
MUTH 2603	Music Theory II (Fa)	3
MUTH 2621	Aural Perception III (Sp)	1
MUTH 2631	Aural Perception IV (Fa)	1
MUTH 3613	Form and 20th Century Techniques (Fa)	3
MUTH 4612	Orchestration (Sp)	2
MUAC 1121	English and Italian Diction for Singers (Fa)	1
MUAC 1141	German and French Diction for Singers (Sp)	1
MUAC 2112	Music Technology (Sp, Su, Fa)	2
MUED 3911	Classroom Instruments in Music Education (Fa)	1
Two hours selected from the following:		2
MUAC 1321	Class Instruction in Guitar (Sp, Fa)	

MUED 1371	Teaching the Beginning Percussionist (Sp, Fa)	
MUED 2532	Class Instruction in Woodwind Instruments (Sp)	
MUED 2542	Class Instruction in Brass Instruments (Sp)	
MUED 2552	Class Instruction in Orchestral String Instruments (Fa)	
MUHS 3703	History of Music to 1750 (Fa)	3
MUHS 3713	History of Music from 1750 to Present (Sp)	3
<b>Applied Piano</b>		14
MUAP 110V	Applied Major Voice/Instrument I (Sp, Fa) (4 Hours)	
MUAP 210V	Applied Major Voice/Instrument II (Sp, Fa) (4 Hours)	
MUAP 310V	Applied Major Voice/Instrument III (Sp, Fa) (4 Hours)	
MUAP 410V	Applied Major Voice/Instrument IV (Sp, Fa) (1 Hour)	
MUAP 3201	Applied Recital I (Sp, Fa)	
Select four from the following:		4
MUAP 1001	Applied Secondary-Level Voice/Instrument I (Sp, Fa)	
MUAP 2001	Applied Secondary-Level Voice/Instrument II (Sp, Fa)	
MUAP 3001	Applied Secondary-Level Voice/Instrument III (Sp, Fa)	
MUAP 4001	Applied Secondary-Level Voice/Instrument IV (Sp, Fa)	
MUPD 3801	Conducting I (Fa)	1
MUPD 3861	Conducting II: Vocal Music (Sp)	1
Select eight of the following:		8
MUEN 1411	Men's Chorus I (Sp, Fa)	
MUEN 2411	Men's Chorus II (Sp, Fa)	
MUEN 3411	Men's Chorus III (Sp, Fa)	
MUEN 4411	Men's Chorus IV (Sp, Fa)	
MUEN 4611	Men's Chorus V (Sp, Fa)	
MUEN 1591	Women's Chorus I (Sp, Fa)	
MUEN 2591	Women's Chorus II (Sp, Fa)	
MUEN 3591	Women's Chorus III (Sp, Fa)	
MUEN 4591	Women's Chorus IV (Sp, Fa)	
MUEN 4891	Women's Chorus V (Sp, Fa)	
MUEN 1451	Schola Cantorum I (Sp, Fa)	
MUEN 2451	Schola Cantorum II (Sp, Fa)	
MUEN 3451	Schola Cantorum III (Sp, Fa)	
MUEN 4451	Schola Cantorum IV (Sp, Fa)	
MUEN 4651	Schola Cantorum V (Sp, Fa)	
MUED 2012	Introduction to Music Education (Sp)	2
MUED 3021	Supervised Practicum in Teaching Musical Skills (Sp)	1
MUED 3833	Music Education in the Elementary School (Sp, Fa)	3
MUED 4112	Pedagogy in Music Education (Fa)	2
MUED 4283	Teaching Vocal Music (Even years, Fa)	3
Total Hours		70

Students who wish to apply for admission to the internship program in music education must complete the following stages.

### Stage I: Complete an Evaluation for Internship

Students must meet the following criteria to be cleared for the internship:

1. Declare the major in music education in the Fulbright Advising Center, 518 Old Main.
2. Successful completion of the PRAXIS I test by meeting or exceeding the Arkansas Department of Education cut-off scores. This test should be taken after the student has completed 30 credit hours and upon completion of ENGL 1013, ENGL 1023, and MATH 1203.
3. Obtain a "C" or better in the following pre-education core courses: CIED 3023, CIED 3033. (PSYC 2003 is a prerequisite.)
4. Obtain a "C" or better in MUED 2012, MUED 3021, MUED 3833, MUED 4112, and one of MUED 4273, or MUED 4283, or MUED 4293.
5. Submit an online application to teach education (see the Teacher Education Application Fee). The evaluation form must be completed by October 1 prior to doing a fall internship or March 1 prior to doing a spring internship. The completed form must be returned to the Teacher Education Office, Graduate Education Building Room 339, no later than the stated deadline.
6. Complete the B.M. degree with a cumulative GPA of 2.75 or higher. The degree must be eligible to be posted to your University of Arkansas transcript at the Registrar's Office prior to internship.
7. Obtain departmental clearance for internship based on successful completion of portfolios, evaluation for internship, GPA requirements, course work requirements, selected written recommendations, an interview, and/or other requirements specified by your program.

All requirements in Stage I must be met to be cleared for the internship. Please contact the Director of Field Placement and Licensure, Graduate Education Building Room 339, College of Education and Health Professions for more information.

### Stage II: Internship

1. Complete the one-semester internship at an approved site in Washington or Benton counties.
2. Complete PRAXIS II requirements if planning to apply for Arkansas Licensure (recommended, but not required for degree completion). See your adviser for completion dates.

NOTE: Students should always consult the Licensure Officer, Graduate Education Building Room 338, for any licensure requirement changes. Students will not be licensed to teach in Arkansas until they have met all requirements for licensure as set forth by the Arkansas Department of Education.

Usually licensure in another state is facilitated by acquiring a license in Arkansas. An application in another state must be made on the application form of that state, which can be obtained by request from the State Teacher Licensure office in the capital city. An official transcript should accompany the application. In many instances the applications are referred to the Licensure Officer, Graduate Education Building Room 338.

### Music B.M., Music Education-Choral/Piano Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program, and should consult their music adviser for an eight-semester plan that is specific to their vocal, instrumental or theoretical emphasis area in music. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are

met, students may substitute a three-hour (or more) general elective in place of a core area.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MUTH 1003 Basic Musicianship (Su, Fa) (if required, or General Elective)	3	
MUAP 110V Applied Major Voice/Instrument I (Sp, Fa)	2	
MUEN 1411 Men's Chorus I (Sp, Fa) or MUEN 1591 Women's Chorus I (Sp, Fa)	1	
MUAC 1121 English and Italian Diction for Singers (Fa)	1	
MLIT 1013 Music and Society (Sp, Fa) (or 1013 Elementary II world language course)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
MUTH 1603 Music Theory I (Sp)		3
MUTH 1621 Aural Perception I (Sp)		1
MUAP 110V Applied Major Voice/Instrument I (Sp, Fa)		2
MUEN 1411 Men's Chorus I (Sp, Fa) or MUEN 1451 Schola Cantorum I (Sp, Fa) or MUEN 1591 Women's Chorus I (Sp, Fa)		1
1013 Elementary II world language course or MLIT 1013, as needed		3
MUAC 1141 German and French Diction for Singers (Sp)		1
Year Total:	16	14

  

Second Year	Units	
	Fall	Spring
MUTH 2603 Music Theory II (Fa) <sup>1</sup>	3	
MUTH 1631 Aural Perception II (Fa)	1	
MUAC 2112 Music Technology (Sp, Su, Fa)	2	
MUAP 210V Applied Major Voice/Instrument II (Sp, Fa) (Piano) <sup>1</sup>	2	
MUAP 1001 Applied Secondary-Level Voice/ Instrument I (Sp,Fa) (Voice) or MUAP 2001 Applied Secondary-Level Voice/ Instrument II (Sp, Fa)	1	
MUEN 2411 Men's Chorus II (Sp, Fa) or MUEN 2451 Schola Cantorum II (Sp, Fa) or MUEN 2591 Women's Chorus II (Sp, Fa)	1	
HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)	3	
General Elective	1	
MUTH 2621 Aural Perception III (Sp) <sup>1</sup>		1
MUAP 210V Applied Major Voice/Instrument II (Sp, Fa) (Piano)		2





## Requirements for a Major in Music leading to a Bachelor of Music Degree

In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the University Core requirements.

Students must complete:

A World Language Course at the 1013 Elementary II Level. Bachelor of Music Degree students pursuing the Voice Performance Concentration must complete this language requirement in either French, German, or Italian. 3

HIST 1113	Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)	3
HIST 1123	Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)	3
MUSY 2003	Music in World Cultures (Sp, Fa)	3
or WLIT 1113	World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)	

And all of the specific requirements for one of the following concentrations.<sup>1</sup>

<sup>1</sup> All students must complete two semesters of MUAP 110V with a grade of "A" or "B" and two semesters of MUAP 210V with a grade of "A" or "B" before enrolling in MUAP 310V.

## Requirements for a Major in Music leading to a Bachelor of Music Degree with Elective Studies in Business

In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following course requirements must be met.

And all of the following:

HIST 1113	Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)	3
HIST 1123	Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)	3
MUSY 2003	Music in World Cultures (Sp, Fa)	3
or WLIT 1113	World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)	

Students must complete a World Language course at the 1013 Elementary II level

MLIT 1013	Music and Society (Sp, Fa)	3
MUTH 1603	Music Theory I (Sp)	3
MUTH 1621	Aural Perception I (Sp)	1
MUTH 1631	Aural Perception II (Fa)	1
MUTH 2603	Music Theory II (Fa)	3
MUTH 2621	Aural Perception III (Sp)	1
MUTH 2631	Aural Perception IV (Fa)	1
MUTH 3613	Form and 20th Century Techniques (Fa)	3
MUTH 4612	Orchestration (Sp)	2
MUAC 1221	Piano Class for Music Majors I (Sp)	1
MUAC 1231	Piano Class for Music Majors II (Fa)	1

MUAC 2221	Piano Class for Music Majors III (Sp)	1
MUAC 2231	Piano Class for Music Major IV (Fa)	1
MUAC 2112	Music Technology (Sp, Su, Fa)	2
MUHS 3703	History of Music to 1750 (Fa)	3
MUHS 3713	History of Music from 1750 to Present (Sp)	3
MUHS 4253	Special Topics in Music History (Sp, Fa)	3

### Applied Instrument/Voice 14

MUAP 110V	Applied Major Voice/Instrument I (Sp, Fa) (4 Hours) <sup>1</sup>	
MUAP 210V	Applied Major Voice/Instrument II (Sp, Fa) (4 Hours) <sup>1</sup>	
MUAP 310V	Applied Major Voice/Instrument III (Sp, Fa) (4 Hours) <sup>2</sup>	
MUAP 410V	Applied Major Voice/Instrument IV (Sp, Fa) (1 Hour)	
MUAP 3201	Applied Recital I (Sp, Fa)	
MUPD 3801	Conducting I (Fa)	1
MUEN 1411	Men's Chorus I (Sp, Fa)	1
or MUEN 1591	Women's Chorus I (Sp, Fa)	

7 MUEN to be selected with the consent of the student's adviser. 7

Student must declare one concentration for a Business Administration Minor for Non-Business Students and fulfill all requirements for that declared minor. 21

Total Hours 86

<sup>1</sup> All students must complete two semesters of MUAP 110V with a grade of "A" or "B" and two semesters of MUAP 210V with a grade of "A" or "B" before enrolling in MUAP 310V.

## Music B.M., with Elective Studies in Business Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program, and should consult their music adviser for an eight-semester plan that is specific to their vocal, instrumental or theoretical emphasis area in music. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MUTH 1003 Basic Musicianship (Su, Fa) (if required)		3
MUAP 110V Applied Major Voice/Instrument I (Sp, Fa)		2
MUEN 1411 Men's Chorus I (Sp, Fa) or MUEN 1591 Women's Chorus I (Sp, Fa)		1
MLIT 1013 Music and Society (Sp, Fa) or HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa) or HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)		3

ISYS 1120 Computer Competency Requirement (Sp, Su, Fa)	0		MUTH 2631 Aural Perception IV (Fa) <sup>1,2</sup>	1
MATH 2053 Finite Mathematics (Sp, Su, Fa)	3		MUAC 2231 Piano Class for Music Major IV (Fa)	1
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3	MUHS 3703 History of Music to 1750 (Fa) <sup>1,2</sup>	3
MUTH 1603 Music Theory I (Sp)		3	MUAP 310V Applied Major Voice/Instrument III (Sp, Fa) <sup>1,2</sup>	2
MUTH 1621 Aural Perception I (Sp)		1	MUEN Music Ensemble (see adviser) <sup>1,2</sup>	1
MUAC 1221 Piano Class for Music Majors I (Sp)		1	MUPD 3801 Conducting I (Fa) <sup>1,2</sup>	1
MUAP 110V Applied Major Voice/Instrument I (Sp, Fa)		2	ECON 2143 Basic Economics: Theory and Practice (Sp, Su, Fa)	3
MUEN Music Ensemble I (see adviser)		1	MUTH 4612 Orchestration (Sp) <sup>1,2</sup>	2
MLIT 1013 Music and Society (Sp, Fa) (as needed) or HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)		3	MUHS 3713 History of Music from 1750 to Present (Sp) <sup>1,2</sup>	3
or HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)			MUAP 310V Applied Major Voice/Instrument III (Sp, Fa) <sup>1,2</sup>	2
ACCT 2013 Accounting Principles (Sp, Su, Fa)		3	MUEN Music Ensemble III (see adviser) <sup>1,2</sup>	1
Year Total:	15	17	HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa) or HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)	3
			or PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)	
<b>Second Year</b>			Select course from Business Administration Minor Concentration requirement <sup>3</sup>	3
			General Elective	1
			Year Total:	15 15
	<b>Fall</b>	<b>Spring</b>	<b>Fourth Year</b>	<b>Units</b>
MUTH 2603 Music Theory II (Fa) <sup>1</sup>	3			<b>Fall</b> <b>Spring</b>
MUTH 1631 Aural Perception II (Fa)	1		MUAP 410V Applied Major Voice/Instrument IV (Sp, Fa) <sup>1,2</sup>	1
MUAC 1231 Piano Class for Music Majors II (Fa)	1		MUAP 3201 Applied Recital I (Sp, Fa)	1
MUAC 2112 Music Technology (Sp, Su, Fa) <sup>1</sup>	2		MUEN Music Ensemble IV (see adviser) <sup>1,2</sup>	1
MUAP 210V Applied Major Voice/Instrument II (Sp, Fa)	2		Science University/state core lecture and corequisite lab	4
MUEN Music Ensemble II (see adviser)	1		MUSY 2003 or WLIT 1113, or non-HIST social science requirement, as needed	3
MLIT 1013 Music and Society (Sp, Fa) (as needed) or HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)		3	Select course from Business Administration Minor Concentration requirement <sup>3</sup>	3
or HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)			General Elective	1
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa) (prerequisite for WCOB 1033; grade "C" or better required)		3	MUHS 4253 Special Topics in Music History (Sp, Fa) <sup>1,2</sup>	3
Upper Level Elective <sup>1</sup>		3	MUEN Music Ensemble (see adviser) <sup>1,2</sup>	1
MUTH 2621 Aural Perception III (Sp) <sup>1</sup>		1	Science University/state core lecture and corequisite lab	4
MUAC 2221 Piano Class for Music Majors III (Sp)		1	Select two courses from Business Administration Minor Concentration requirement <sup>3</sup>	6
MUAP 210V Applied Major Voice/Instrument II (Sp, Fa)		2	Year Total:	14 14
MUEN Music Ensemble II (see adviser)		1		
WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa)		3	Total Units in Sequence:	120
MUSY 2003 or WLIT 1113, or University/state core non-HIST social science		3		
Year Total:	16	14		
<b>Third Year</b>			<sup>1</sup> Meets 40-hour advanced credit hour requirement	
			<sup>2</sup> Meets 24-hour (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule.	
MUTH 3613 Form and 20th Century Techniques (Fa) <sup>1,2</sup>	3			

<sup>3</sup> Choose one concentration for Business Administration Minor for Non-Business Students (p. 417).

## Requirements for a Major in Music leading to a Bachelor of Arts Degree

This program is for undergraduates who wish to major in music as part of a liberal arts program. In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the University/state minimum core requirements.

Completion of 2013 Intermediate II of any World Language. <sup>1</sup>		3-9
HIST 1113	Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)	3
HIST 1123	Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)	3
PHIL 2003	Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)	3
WLIT 1113	World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)	3
or MUSY 2003 Music in World Cultures (Sp, Fa)		
A minimum of 44-49 semester hours in music to include:		
MUEN 1411	Men's Chorus I (Sp, Fa)	1
or MUEN 1591 Women's Chorus I (Sp, Fa)		
MLIT 1013	Music and Society (Sp, Fa)	3
MUTH 1603	Music Theory I (Sp)	3
MUTH 1621	Aural Perception I (Sp)	1
MUTH 1631	Aural Perception II (Fa)	1
MUTH 2603	Music Theory II (Fa)	3
MUTH 2621	Aural Perception III (Sp)	1
MUTH 2631	Aural Perception IV (Fa)	1
MUTH 3603	18th Century Counterpoint (Sp)	1-4
or MUTH 3623 Music Perception (Even years, Sp)		
or MUTH 3723 Jazz Analysis (Irregular)		
or MUTH 477V Special Topics in Music Theory (Irregular)		
MUTH 3613	Form and 20th Century Techniques (Fa)	3
MUAC 1221	Piano Class for Music Majors I (Sp)	1
MUAC 1231	Piano Class for Music Majors II (Fa)	1
MUHS 3703	History of Music to 1750 (Fa)	3
MUHS 3713	History of Music from 1750 to Present (Sp)	3
MUHS 4253	Special Topics in Music History (Sp, Fa)	3
8 hours of applied study on voice or on one instrument:		
MUAP 110V	Applied Major Voice/Instrument I (Sp, Fa)	4
MUAP 210V	Applied Major Voice/Instrument II (Sp, Fa)	4
4 hours of ensemble to be selected with the consent of their advisers.		
1-5 hours of 3000- or 4000-level elective music courses as needed to complete 20 hours of 3000-plus level music courses.		
Total Hours		57-70

<sup>1</sup> This is usually accomplished through completion of a sequence of three language courses: 1013, 2003 and 2013.

## Music B.A. Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program, and should consult their music adviser for an eight-semester plan that is specific to their vocal, instrumental or theoretical emphasis area in music. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (or any higher-level MATH)	3	
Select one of the following:	3	
MUTH 1003 Basic Musicianship (Su, Fa) (if required)		
1013 Elementary II Language course (or higher, depending on placement in sequence)		
MUAC 1221 Piano Class for Music Majors I (Sp)	1	
MUAP 110V Applied Major Voice/Instrument I (Sp, Fa)	2	
MUEN 1411 Men's Chorus I (Sp, Fa)	1	
or MUEN 1591 Women's Chorus I (Sp, Fa)		
MLIT 1013 Music and Society (Sp, Fa)	3	
or HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)		
or HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)		
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
2003 Intermediate I World Language Course (or begin with 1013 Elementary II language course, as needed)		3
MUTH 1603 Music Theory I (Sp)		3
MUTH 1621 Aural Perception I (Sp)		1
MUAC 1231 Piano Class for Music Majors II (Fa)		1
MUAP 110V Applied Major Voice/Instrument I (Sp, Fa)		2
MUEN Music Ensemble I (see adviser)		1
HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa) (as needed)		3
or HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)		
or MLIT 1013 Music and Society (Sp, Fa)		
Year Total:	16	17

Second Year	Units	
	Fall	Spring
MUTH 2603 Music Theory II (Fa) <sup>1</sup>	3	
MUTH 1631 Aural Perception II (Fa)	1	
MUAP 210V Applied Major Voice/Instrument II (Sp, Fa)	2	
MUEN Music Ensemble II (see adviser)	1	
HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa) (as needed) or MLIT 1013 Music and Society (Sp, Fa) or HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)	3	
2013 Intermediate II world language course (or 2003 Intermediate I as needed)	3	
PHIL 2003 Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa) (or University/State Core US History requirement)	3	
Advanced Level Elective <sup>1</sup>		3
MUTH 3603 18th Century Counterpoint (Sp) <sup>2</sup> or MUTH 3623 Music Perception (Even years, Sp) or MUTH 3723 Jazz Analysis (Irregular) or MUTH 477V Special Topics in Music Theory (Irregular)		3
MUTH 2621 Aural Perception III (Sp) <sup>1</sup>		1
MUAP 210V Applied Major Voice/Instrument II (Sp, Fa)		2
MUEN Music Ensemble II (see adviser)		1
2013 Intermediate II World Language course, if still needed, else General Elective		3
University/State Core U.S. History requirement or PHIL 2003, as needed		3
Year Total:	16	16

Third Year	Units	
	Fall	Spring
MUTH 3613 Form and 20th Century Techniques (Fa) <sup>2</sup>	3	
MUTH 2631 Aural Perception IV (Fa) <sup>1</sup>	1	
MUHS 3703 History of Music to 1750 (Fa) <sup>2</sup>	3	
Advanced Level Elective <sup>1</sup>	3	
Science University/State Core Lecture with Corequisite Lab requirement	4	
MUHS 3713 History of Music from 1750 to Present (Sp) <sup>2</sup>		3
WLIT 1113 World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa) or MUSY 2003 Music in World Cultures (Sp, Fa)		3
University/State Core Social Science requirement (non-HIST)		3
Science University/State Core Lecture with Corequisite Lab requirement		4
Upper Level Elective <sup>1</sup>		3
Year Total:	14	16

Fourth Year	Units	
	Fall	Spring
MUHS 4253 Special Topics in Music History (Sp, Fa) <sup>1,2</sup>	3	
MUEN Music Ensemble IV (see adviser)		1
Upper-Level Music Elective (as needed to reach 20 hours of upper-level music coursework) or Upper-Level Elective from Fulbright College <sup>1,2</sup>		3
Upper-Level Elective from Fulbright College <sup>1,2</sup>		3
General Electives		3
Upper-Level Music Elective (as needed to reach 20 hours of upper-level music coursework) or Upper-Level Elective from Fulbright College <sup>1,2</sup>		3
Upper-Level Elective from Fulbright College <sup>1,2</sup>		3
Upper-Level Elective <sup>1</sup>		3
General Electives		3
Year Total:	13	12

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Total Units in Sequence: 120

<sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations (p. 183).

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations (p. 183).

## Requirements for a Minor in Music

A minimum of 18 semester hours in music courses to include MLIT 1013, MUTH 1603, MUTH 2603, and either MUHS 3703 or MUHS 3713; other courses to be determined by the student in consultation with a music faculty adviser. The student must notify the Department of Music of his/her intent to minor.

For requirements for advanced degrees in music, see the Graduate School Catalog.

## Requirements for Departmental Honors in Music

The Departmental Honors Program in Music provides upper-division undergraduate students an opportunity to participate formally in scholarly, creative, or performance music activities. Honors candidates carry out independent study, research and performance under the guidance of the music faculty and participate in special honors classes and seminars. They must take 12 hours (which may include 6 hours of thesis) in Honors Studies.

Each honors student will be required to select an honors committee. The committee will be comprised of the honors thesis adviser (a Music Department faculty member and major teacher in the area of the honors project), a second faculty member from the Music Department chosen by the student, a member from outside the music department chosen by the student, and a member of the Honors Council appointed by the Honors College. This committee is responsible for hearing and seeing the work of the student in the area of the honors project and will administer the oral examination to the candidate at the end of the last semester of the student's work. The committee then recommends to the Honors Council whether or not the student receives honors in music. Outstanding student achievement will be recognized by awarding the distinction "Music Scholar *Cum Laude*" at graduation. The award of higher degree distinctions is

recommended only in truly exceptional cases and is based upon the whole of the candidate's program of honors studies.

The student may elect to do the honors project in one of six areas: performance, music history and literature, theory, composition, music education, or ethnomusicology. Honors work may be done in an area other than the student's major area that is, a student majoring in voice performance may elect to do honors work in music history, theory, or composition, etc.

If a student wishes to devise his or her own honors project in consultation with a supervising professor and with the permission of the department chair, he or she may be granted honors. If a student wishes to combine work in more than one field and if the committee approves, he or she may be granted honors in more than one area, although the designation on the diploma will read "in music."

The requirements for work in each area are as follows:

1. Performance
  - a. 2 semesters of MUAP 310VH or MUAP 410VH, with concurrent registration in MUAP 3201H and MUAP 4201H
  - b. Other music department honors courses are recommended, see honors adviser. (A program file representing the student's range of performance activities during the junior and senior years will be maintained for the department file and for the Honors Council. Compact discs of the junior and senior recitals will be filed with the Honors Office.)
2. History and Literature
  - a. Junior year: MUHS 5973 Seminar in Bibliography and Methods of Research
  - b. Senior year: MUSC 490VH Honors Essay
3. Theory
  - a. Junior year: MUHS 5973 Seminar in Bibliography and Methods of Research
  - b. Senior year: MUSC 490VH Honors Essay
4. Composition
  - a. At least six hours of MUTH 364VH Honors Composition III or MUTH 464VH Honors Composition IV
  - b. A full program of original compositions or equivalent.
5. Music Education
  - a. Junior year: MUED 5513 Seminar: Resources in Music Education
  - b. Senior year: MUSC 490VH Honors Essay
6. Ethnomusicology
  - a. Junior year: MUHS 5973 Seminar in Bibliography and Methods of Research
  - b. Senior year: MUSC 490VH Honors Essay

## Philosophy (PHIL)

### Faculty

**Jacob Adler**, Associate Professor  
**David A. Barrett**, Lecturer  
**Eric M. Funkhouser**, Professor  
**Warren Herold**, Assistant Professor  
**Jeremy S. Hyman**, Instructor  
**Richard N. Lee**, Associate Professor

**Jack C. Lyons**, Professor  
**Oksana Maksymchuk**, Assistant Professor  
**Edward H. Minar**, Professor  
**Thomas D. Senior**, Professor  
**Christopher W. Stevens**, Instructor  
**Barry M. Ward**, Associate Professor

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The Department of Philosophy offers an undergraduate major in philosophy as well as a combined major in philosophy and African and African American studies, both of which lead to a Bachelor of Arts degree. The department also offers a minor in philosophy.

The problems of philosophy include some of the deepest, most interesting, and most challenging questions that the human mind can raise. What is the difference between appearance and reality? What are the sources and limits of human knowledge? Does God exist? What is the origin of evil? Can computers think or have feelings? Do we have freedom of the will? Why be moral, and how is morality related to law? What is the proper scope of governmental authority? What is scientific explanation and why does it work? How does science differ from art? What is truth? What is the meaning of a word?

Philosophy cannot claim to have discovered fully adequate answers either to these questions or to the other questions that fall within its scope, but it has developed fruitful ways of addressing them, and it has found a number of partial answers that are both useful and exciting. Although the department's bent is generally analytic, our course offerings cover a broad range and include every major period in the history of western philosophy and most of the major subfields of contemporary philosophy. Our areas of special concentration are the philosophy of mind, epistemology, and philosophy of religion.

For requirements for advanced degrees in philosophy, see the Graduate School Catalog (<http://catalog.uark.edu/graduatecatalog/programsofstudy/philosophyphil>).

### Requirements for a Major in Philosophy

Students must complete 120 degree credit hours to include the minimum University Core requirements (p. 81), the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), and following course requirements for the major. Bolded courses from the list below may be applied to portions of the University/state minimum core requirements.

Select one of the following:

CLST 1003	Introduction to Classical Studies: Greece (Odd years, Fa)	3
HIST 1113	Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)	
HIST 1123	Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)	

#### 33 Semester Hours in Philosophy to include:

PHIL 2003	Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)	3
PHIL 2203	Logic (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)	3

or PHIL 4253	Symbolic Logic I (Fa)	
PHIL 4003	Ancient Greek Philosophy (Fa)	3
PHIL 4033	Modern Philosophy-17th and 18th Centuries (Sp)	3
and		
18 additional hours in PHIL electives		18
and either		
PHIL 4983	Capstone Course for Philosophy Majors (Sp)	3
Or a successfully defended honors thesis in philosophy.		
Total Hours		36

**Writing Requirement:** The writing requirement can be satisfied either by completion of an acceptable thesis or by approval of a research/analytical paper from any 4000-level course in philosophy submitted by the student to the Philosophy Department's Undergraduate Committee.

## Philosophy B.A. Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program as well as College requirements (p. 183). Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3	
PHIL 2003 Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)	3	
University/State Core Fine Arts or U.S. History requirement	3	
General Elective	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
University/State Core U.S. History or Fine Arts requirement		3
PHIL 2203 Logic (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)		3
General Elective		6
Year Total:	15	15

Second Year	Units	
	Fall	Spring
PHIL 4003 Ancient Greek Philosophy (Fa) <sup>1,2</sup>	3	
Select one of the following:	3	
CLST 1003 Introduction to Classical Studies: Greece (Odd years, Fa)		
HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)		

HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)		
University/State Core Social Science requirement	3	
Science University/State Core Lecture and Corequisite Lab requirement	4	
General Elective	3	
PHIL 4033 Modern Philosophy-17th and 18th Centuries (Sp) <sup>1,2</sup>		3
Advanced Level Elective <sup>1</sup>		3
University/State Core Social Science requirement		3
General Electives		6
Year Total:	16	15

Third Year	Units	
	Fall	Spring
PHIL 3000-4000 Level Elective <sup>1,2</sup>	3	
PHIL 3000-4000 Level Elective <sup>1,2</sup>	3	
University/State Core Social Science requirement (as needed) or General Elective	3	
Science University/State Core Lecture and Corequisite Lab requirement	4	
Advanced Level Elective <sup>1</sup>	3	
PHIL course from 3000-4000 Level Elective <sup>1,2</sup>		3
Advanced Level Elective <sup>1</sup>		3
Advanced Level Elective <sup>1</sup>		3
General Electives		6
Year Total:	16	15

Fourth Year	Units	
	Fall	Spring
PHIL course from 3000-4000 Level Elective <sup>1,2</sup>	3	
PHIL 3000-4000 Level Elective <sup>1,2</sup>	3	
General Electives	7-10	
PHIL 4983 Capstone Course for Philosophy Majors (Sp) <sup>1,2</sup>		3
PHIL 3000-4000 Level Elective <sup>1,2</sup>		3
3000-4000 Level Elective <sup>1</sup>		3
General Electives (as needed to total 120 degree credit hours)		3-6
Year Total:	14	14

Total Units in Sequence: 120

<sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations (p. 183).

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations (p. 183).

## Requirements for a Minor in Philosophy

The minor requires 18 semester hours in philosophy to include PHIL 2203 or PHIL 4253, and either PHIL 4003 or PHIL 4033. A student may earn

either a minor or a combined major in philosophy but not both. A student must notify the department of his or her intent to minor.

**Requirements for Honors in Philosophy:** Both the College and the Departmental Honors Program in Philosophy provide undergraduate students with the opportunity to participate formally in scholarly philosophical activities, and allow for greater maturity in dealing with philosophical ideas through independent study. Admission to the Fulbright Honors Program is open to philosophy majors with a minimum, cumulative grade point average of 3.5 in all of their coursework. Honors candidates must complete a minimum of 12 hours of honors courses, which may include up to 6 hours of thesis. Honors candidates carry out independent study and research under the guidance of the philosophy faculty and participate in special honors classes, seminars, and colloquia. To successfully complete the required thesis, students should choose an honors thesis adviser as early as possible. An adviser should be selected, and an Honors Agreement completed, no later than the first semester in a student's junior year.

Honors candidates must meet the college's requirements for an honors degree. Students graduating with honors typically graduate with the distinction "Philosophy Scholar Cum Laude" at graduation. Higher degree distinctions (*magna cum laude*, *summa cum laude*) are awarded by the Honors Council, are recommended only in truly exceptional cases, and are based upon the whole of the candidate's program of honors studies.

## Physics (PHYS)

### Faculty

**Salvador Barraza-Lopez**, Associate Professor  
**Laurent Bellaiche**, Distinguished Professor  
**Hugh O.H. Churchill**, Assistant Professor  
**Huaxiang Fu**, Professor  
**Julio R. Gea-Banacloche**, Professor  
**Bothina Hamad**, Research Associate Professor  
**William G. Harter**, Professor  
**Joseph B. Herzog**, Assistant Professor  
**Jin Hu**, Assistant Professor  
**Tacy Marie Joffe Minor**, Visiting Assistant Professor  
**Daniel John Kennefick**, Associate Professor  
**Julia Dusk Kennefick**, Associate Professor  
**Pradeep Kumar**, Assistant Professor  
**Bret Darby Lehmer**, Assistant Professor  
**Jiali Li**, Professor  
**William Oliver III**, Associate Professor  
**Sergey Prosandeev**, Research Professor  
**Fuad Rawwagah**, Assistant Professor  
**Wei Ren**, Assistant Professor  
**Gregory J. Salamo**, Distinguished Professor  
**Woodrow L. Shew**, Associate Professor  
**Surendra P. Singh**, University Professor  
**Stephen R. Skinner**, Instructor  
**Tamara D. Snyder**, Clinical Assistant Professor  
**Paul M. Thibado**, Professor  
**Reeta Vyas**, Professor  
**Yong Wang**, Assistant Professor  
**Rick Wise**, Research Professor  
**Min Xiao**, Distinguished Professor  
**Mark Zajac**, Visiting Assistant Professor

William Oliver  
 Chair of the Department

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 479-575-7932  
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Department of Physics website (<http://www.uark.edu/depts/physics>)

The Department of Physics offers two undergraduate majors, one leading to a Bachelor of Science degree in physics and a second leading to a Bachelor of Arts degree in physics.

Physicists ask questions and try to find answers to almost everything. If you have wondered about rainbows, thunderstorms, why stars shine, the colors of beetles, why curve balls curve, how the universe began, or how quarks and leptons interact – if you like to explore and figure out why things are the way they are – you might want to become a physicist.

The Bachelor of Science degree program is designed for students interested in professional employment or who want to pursue graduate work in physics or closely related fields such as astronomy, engineering, laser technology, or computational science. It offers the option of one of seven concentrations.

The Bachelor of Arts degree program provides a broad background in the physics and technology of today and tomorrow. Training in physics provides students with a unique background, the usefulness of which transcends the boundaries of the professional disciplines.

In our increasingly technological society, scientific literacy is ever more important for the successful employee. Physics, the most fundamental science, gives students the fascination of studying the deepest principles of the universe while preparing them for a wide range of practical employment.

For information on advanced degrees in physics, see the Graduate School Catalog (<http://catalog.uark.edu/graduatecatalog/programsofstudy/physicsphys>).

### Requirement for B.S. Degree with a Major in Physics

In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the University Core requirements.

The student must present a minimum of 39 semester hours in physics\* including:

PHYS 2054	University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa)	4
PHYS 2074	University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa)	4
PHYS 2094	University Physics III (Fa)	4
PHYS 3414	Electromagnetic Theory (Sp)	4
PHYS 3613	Modern Physics (Sp, Su, Fa)	3
PHYS 4073	Introduction to Quantum Mechanics (Fa)	3
PHYS 4991	Physics Senior Seminar (Sp, Su, Fa)	1

#### Mathematics Courses:

MATH 2554	Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	4
MATH 2564	Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa)	4

MATH 2574	Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa)	4
MATH 2584	Elementary Differential Equations (Sp, Su, Fa)	4
MATH 3083	Linear Algebra (Sp, Su, Fa)	3
<b>Additional Science:</b>		8
At least 8 hours of other science chosen from CHEM 1103/ CHEM 1101L, CHEM 1123/CHEM 1121L, CSCE 2004, CSCE 2014, BIOL 1543/BIOL 1541L (or BIOL 1584), GEOS 1113/GEOS 1111L, or GEOS 1133/GEOS 1131L, or an approved 8 hours of other laboratory-based courses from these departments.		
Physics B.S. majors must complete all the requirements for one of seven available concentration areas. All concentrations consist of 16 credit hours with the exception of the Geophysics concentration, which requires 24.		16
Total Hours		66

\* Note: astronomy, biology, chemistry, computer science, and geosciences courses as specified within the concentration requirements listed below can be applied to this 39 hours.

<sup>1</sup> CSCE 3513, CSCE 4423, MEEG 2703, or GEOS 4223 can be substituted for MATH 3083 with the adviser's approval.

Majors must propose participation in a research experience project no later than the end of their junior year of study. A written report of the results must be submitted during Senior Seminar (PHYS 4991).

## Astronomy Concentration

PHYS 3544	Optics (Fa)	4
6 semester hours of ASTR courses numbered 3000 or above (ASTR 4033, ASTR 4043, ASTR 4073)		6
6 additional hours numbered 3000 and above in physics or astronomy		6
Total Hours		16

**Writing Requirement:** Students majoring in physics may satisfy the Fulbright College writing requirement by means of a senior thesis (PHYS 498V), an honors thesis submitted in fulfillment of the requirements of the honors program (), or by means of a paper submitted as part of PHYS 4991 or any physics or astronomy course numbered 3000 or above. Students electing the last route must obtain approval of the instructor during the first three weeks of the semester. The research/analytical paper should demonstrate competency in the use of word processing software and also at least one computer analytical tool such as a spreadsheet, mathematical or graphics program, or an original program written by the student.

**Assessment of Student Learning:** In accordance with state, University, and college requirements, all students must have learning assessed before graduation. Students majoring in physics will be assessed in the course PHYS 4991, which must be taken in the year prior to graduation.

## Physics B.S. with Astronomy Concentration Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program as well as Fulbright College requirements.

Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students

may substitute a three-hour (or more) general elective in place of a core area. Students should consult their advisers.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) <sup>1</sup>	4	
University/State Core US History requirement	3	
PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa) <sup>1</sup>	4	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa) <sup>1</sup>		4
University/State Core Fine Arts or Humanities requirement		3
General Electives		1
PHYS 2074 University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa) <sup>1</sup>		4
Year Total:	14	15

Second Year	Units	
	Fall	Spring
PHYS 2094 University Physics III (Fa) <sup>1</sup>	4	
Select one of the following four-hour lecture/lab combinations	4	
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) & CHEM 1101L University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)		
CHEM 1123 University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) & CHEM 1121L University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)		
CSCE 2004 Programming Foundations I (Sp, Fa)		
CSCE 2014 Programming Foundations II (Sp, Fa)		
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)		
or BIOL 1584 Biology for Majors (Sp, Fa)		
GEOS 1113 General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa) & GEOS 1111L General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)		
GEOS 1133 Earth Science (ACTS Equivalency = GEOL 1124 Lecture) (Sp, Fa) & GEOS 1131L Earth Science Laboratory (ACTS Equivalency = GEOL 1124 Lab) (Sp, Fa)		



MATH 2574 Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa) <sup>1</sup>	4	
University/State Core Humanities or Fine Arts requirement (as needed)	3	
PHYS 3613 Modern Physics (Sp, Su, Fa) <sup>1,2</sup>	3	
University/State Core Social Science requirement	3	
MATH 2584 Elementary Differential Equations (Sp, Su, Fa) <sup>1,2</sup>	4	
Select one of the following four-hour lecture/lab combinations	4	
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) & CHEM 1101L University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)		
CHEM 1123 University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) & CHEM 1121L University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)		
CSCE 2004 Programming Foundations I (Sp, Fa)		
CSCE 2014 Programming Foundations II (Sp, Fa)		
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa) or BIOL 1584 Biology for Majors (Sp, Fa)		
GEOS 1113 General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa) & GEOS 1111L General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)		
GEOS 1133 Earth Science (ACTS Equivalency = GEOL 1124 Lecture) (Sp, Fa) & GEOS 1111L General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)		
Year Total:	15	14

Third Year	Units	
	Fall	Spring
PHYS/ASTR Group A <sup>1,2</sup>	4	
PHYS/ASTR Group A or General Elective	4	
MATH 3083 Linear Algebra (Sp, Su, Fa)	3	
PHYS 3213 Electronics in Experimental Physics (Odd years, Sp) <sup>1,2</sup>	3	
PHYS 3414 Electromagnetic Theory (Sp) <sup>1,2</sup>	4	
University/State Core Social Science requirement	3	
General Elective or PHYS/ASTR Group A (as needed)	3	
General Elective	3	
University/State Core Social Science requirement	3	
Year Total:	14	16

Fourth Year	Units	
	Fall	Spring
PHYS 4073 Introduction to Quantum Mechanics (Fa) <sup>1,2</sup>	3	
PHYS 3544 Optics (Fa) <sup>1,2</sup>	4	
ASTR 4033 Astrophysics I: Stars and Planetary Systems (Odd years, Fa) <sup>1,2</sup>	3	
General Electives	6	
PHYS 4991 Physics Senior Seminar (Sp, Su, Fa) <sup>1,2</sup>		1
PHYS 4734 Introduction to Laser Physics (Sp) <sup>1,2</sup> or PHYS 4773 Introduction to Optical Properties of Materials (Even years, Sp)		4
ASTR 4043 Astrophysics II: Galaxies and the Large-Scale Universe (Even years, Sp) <sup>1,2</sup>		3
General Electives		8
Year Total:	16	16

Total Units in Sequence: 120

<sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations.

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations.

Group A: Any PHYS or ASTR classes numbered 3000 or above.

## Requirement for B.S. Degree with a Major in Physics

In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the University Core requirements.

The student must present a minimum of 39 semester hours in physics\* including:

PHYS 2054	University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa)	4
PHYS 2074	University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa)	4
PHYS 2094	University Physics III (Fa)	4
PHYS 3414	Electromagnetic Theory (Sp)	4
PHYS 3613	Modern Physics (Sp, Su, Fa)	3
PHYS 4073	Introduction to Quantum Mechanics (Fa)	3
PHYS 4991	Physics Senior Seminar (Sp, Su, Fa)	1

### Mathematics Courses:

MATH 2554	Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	4
MATH 2564	Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa)	4
MATH 2574	Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa)	4
MATH 2584	Elementary Differential Equations (Sp, Su, Fa)	4

MATH 3083	Linear Algebra (Sp, Su, Fa)	3
<b>Additional Science:</b>		8
At least 8 hours of other science chosen from CHEM 1103/ CHEM 1101L, CHEM 1123/CHEM 1121L, CSCE 2004, CSCE 2014, BIOL 1543/BIOL 1541L (or BIOL 1584), GEOS 1113/GEOS 1111L, or GEOS 1133/GEOS 1131L, or an approved 8 hours of other laboratory-based courses from these departments.		
Physics B.S. majors must complete all the requirements for one of seven available concentration areas. All concentrations consist of 16 credit hours with the exception of the Geophysics concentration, which requires 24.		16
<b>Total Hours</b>		<b>66</b>

\* Note: astronomy, biology, chemistry, computer science, and geosciences courses as specified within the concentration requirements listed below can be applied to this 39 hours.

<sup>1</sup> CSCE 3513, CSCE 4423, MEEG 2703, or GEOS 4223 can be substituted for MATH 3083 with the adviser's approval.

Majors must propose participation in a research experience project no later than the end of their junior year of study. A written report of the results must be submitted during Senior Seminar (PHYS 4991).

## Biophysics Concentration

PHYS 4333	Thermal Physics (Sp)	3
13 semester hours numbered 3000 and above in physics, astronomy, biology, and chemistry chosen with the adviser's permission.		
<b>Total Hours</b>		<b>16</b>

**Writing Requirement:** Students majoring in physics may satisfy the Fulbright College writing requirement by means of a senior thesis (PHYS 498V), an honors thesis submitted in fulfillment of the requirements of the honors program (), or by means of a paper submitted as part of PHYS 4991 or any physics or astronomy course numbered 3000 or above. Students electing the last route must obtain approval of the instructor during the first three weeks of the semester. The research/analytical paper should demonstrate competency in the use of word processing software and also at least one computer analytical tool such as a spreadsheet, mathematical or graphics program, or an original program written by the student.

**Assessment of Student Learning:** In accordance with state, University, and college requirements, all students must have learning assessed before graduation. Students majoring in physics will be assessed in the course PHYS 4991, which must be taken in the year prior to graduation.

## Physics B.S. with Biophysics Concentration Eight-Semester Degree Plan

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program as well as Fulbright College requirements.

Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area. Well prepared students may skip BIOL 1543/BIOL 1541L, and go immediately into the biology core courses. Students should consult their advisers.

	First Year	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
BIOL 2533 Cell Biology (Sp, Fa) & BIOL 2531L Cell Biology Laboratory (Sp, Fa)	4	
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) <sup>1</sup>	4	
PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa) <sup>1</sup>	4	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa) <sup>1</sup>		4
BIOL 2323 General Genetics (Sp, Fa)		3
PHYS 2074 University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa) <sup>1</sup>		4
University/State Core Fine Arts or Humanities		3
<b>Year Total:</b>	<b>15</b>	<b>17</b>

	Second Year	
	Fall	Spring
PHYS 2094 University Physics III (Fa) <sup>1</sup>	4	
MATH 2574 Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa) <sup>1</sup>	4	
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) & CHEM 1101L University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)	4	
University/State Core Humanities or Fine Arts requirement (as needed)	3	
PHYS 3613 Modern Physics (Sp, Su, Fa) <sup>1,2</sup>		3
CHEM 1123 University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) & CHEM 1121L University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)		4
MATH 2584 Elementary Differential Equations (Sp, Su, Fa) <sup>1,2</sup>		4
BIOL 2013 General Microbiology (ACTS Equivalency = BIOL 2004 Lecture) (Sp, Su, Fa) & BIOL 2011L General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa) <sup>1,3</sup>		4
<b>Year Total:</b>	<b>15</b>	<b>15</b>

	Third Year	
	Fall	Spring
MATH 4423 Introduction to Partial Differential Equations (Sp, Su, Fa) <sup>1,2</sup>	3	
University/State Core Social Science requirement	3	
University/State Core U.S. History Requirement	3	
CHEM 3603 Organic Chemistry I (Su, Fa) & CHEM 3601L Organic Chemistry I Laboratory (Su, Fa) <sup>1,2</sup>	4	

PHYS 3414 Electromagnetic Theory (Sp) <sup>1,2</sup>	4
PHYS 4333 Thermal Physics (Sp)	3
CHEM 3613 Organic Chemistry II (Sp, Su) & CHEM 3611L Organic Chemistry II Laboratory (Sp, Su) <sup>2</sup>	4
University/State Core Social Science requirement	3
<b>Year Total:</b>	<b>13 14</b>

Fourth Year	Units	
	Fall	Spring
PHYS 4073 Introduction to Quantum Mechanics (Fa) <sup>1,2</sup>	3	
BIOL 4003 Laboratory in Prokaryote Biology (Sp, Fa) <sup>1,2,3</sup>	3	
University/State Core Social Science requirement	3	
General Electives	6	
BIOL 2323 General Genetics (Sp, Fa)		3
BIOL 3023 Evolutionary Biology (Sp, Fa) <sup>2</sup>		3
PHYS 4991 Physics Senior Seminar (Sp, Su, Fa) <sup>1,2</sup>		1
General Electives as needed to total 120 degree credit hours		9
<b>Year Total:</b>	<b>15</b>	<b>16</b>

Total Units in Sequence: 120

- <sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations.
- <sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations.
- <sup>3</sup> Or another chemistry, biology, astronomy or physics elective from PHYS/ASTR Group A (below).

Group A: Any PHYS or ASTR classes numbered 3000 or above.

## Requirement for B.S. Degree with a Major in Physics

In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the University Core requirements.

The student must present a minimum of 39 semester hours in physics\* including:

PHYS 2054	University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa)	4
PHYS 2074	University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa)	4
PHYS 2094	University Physics III (Fa)	4
PHYS 3414	Electromagnetic Theory (Sp)	4
PHYS 3613	Modern Physics (Sp, Su, Fa)	3
PHYS 4073	Introduction to Quantum Mechanics (Fa)	3
PHYS 4991	Physics Senior Seminar (Sp, Su, Fa)	1

### Mathematics Courses:

MATH 2554	Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	4
MATH 2564	Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa)	4
MATH 2574	Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa)	4
MATH 2584	Elementary Differential Equations (Sp, Su, Fa)	4
MATH 3083	Linear Algebra (Sp, Su, Fa)	3
<b>Additional Science:</b>		<b>8</b>

At least 8 hours of other science chosen from CHEM 1103/ CHEM 1101L, CHEM 1123/CHEM 1121L, CSCE 2004, CSCE 2014, BIOL 1543/BIOL 1541L (or BIOL 1584), GEOS 1113/GEOS 1111L, or GEOS 1133/GEOS 1131L, or an approved 8 hours of other laboratory-based courses from these departments.

Physics B.S. majors must complete all the requirements for one of seven available concentration areas. All concentrations consist of 16 credit hours with the exception of the Geophysics concentration, which requires 24.

Total Hours 66

\* Note: astronomy, biology, chemistry, computer science, and geosciences courses as specified within the concentration requirements listed below can be applied to this 39 hours.

<sup>1</sup> CSCE 3513, CSCE 4423, MEEG 2703, or GEOS 4223 can be substituted for MATH 3083 with the adviser's approval.

Majors must propose participation in a research experience project no later than the end of their junior year of study. A written report of the results must be submitted during Senior Seminar (PHYS 4991).

## Computational Concentration

PHYS 3113	Analytical Mechanics (Fa)	3
13 semester hours numbered 3000 and above in physics, astronomy, advanced computer science, or mathematics chosen with the adviser's permission.		13
<b>Total Hours</b>		<b>16</b>

**Writing Requirement:** Students majoring in physics may satisfy the Fulbright College writing requirement by means of a senior thesis (PHYS 498V), an honors thesis submitted in fulfillment of the requirements of the honors program (), or by means of a paper submitted as part of PHYS 4991 or any physics or astronomy course numbered 3000 or above. Students electing the last route must obtain approval of the instructor during the first three weeks of the semester. The research/analytical paper should demonstrate competency in the use of word processing software and also at least one computer analytical tool such as a spreadsheet, mathematical or graphics program, or an original program written by the student.

**Assessment of Student Learning:** In accordance with state, University, and college requirements, all students must have learning assessed before graduation. Students majoring in physics will be assessed in the course PHYS 4991, which must be taken in the year prior to graduation.

## Physics B.S. with Computational Concentration Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations

chapter for university requirements of the program as well as Fulbright College requirements.

Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area. Students should consult their advisers.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) <sup>1</sup>	4	
University/State Core Fine Arts or Humanities requirement	3	
PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa) <sup>1</sup>	4	
General Electives (as desired)	2-3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
PHYS 2074 University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa) <sup>1</sup>		4
MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa) <sup>1</sup>		4
University/State Core US History requirement or General Elective		3
Year Total:	16	14

Second Year	Units	
	Fall	Spring
PHYS 2094 University Physics III (Fa) <sup>1</sup>	4	
MATH 2574 Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa) <sup>1</sup>	4	
General Elective or University/State Core US History requirement (as needed)	3	
CSC 2004 Programming Foundations I (Sp, Fa) (Highly recommended in order to satisfy prerequisite for upper-level CSC courses.)	4	
PHYS 3613 Modern Physics (Sp, Su, Fa) <sup>1,2</sup>		3
MATH 2584 Elementary Differential Equations (Sp, Su, Fa) <sup>1,2</sup>		4
CSC 2014 Programming Foundations II (Sp, Fa) (Highly recommended in order to satisfy prerequisite for upper-level CSC courses.)		4
University/State Core Social Science requirement		3
Year Total:	15	14

Third Year	Units	
	Fall	Spring
PHYS 3113 Analytical Mechanics (Fa) <sup>2</sup>	3	
Advanced Level Elective	3	
MATH 3083 Linear Algebra (Sp, Su, Fa)	3	
University/State Core Social Science requirement	3	
General Electives	3	
PHYS 3414 Electromagnetic Theory (Sp) <sup>1,2</sup>		4

Select one of the following:		3
CSC course		
Advanced Level Electives		
PHYS/ASTR Group A <sup>3</sup>		
PHYS/ASTR Group A or Advanced Level Electives <sup>1,2,3</sup>		3
University/State Core Social Science requirement		3
General Elective		3
Year Total:	15	16

Fourth Year	Units	
	Fall	Spring
Select one of the following:		3
CSC 4133 Algorithms (Fa) (recommended; else other upper-level PHYS, ASTR, CSC, or MATH course selected with advisor's approval)		
PHYS/ASTR Group A or Advanced Level Electives <sup>3</sup>		
PHYS/ASTR Group A or Advanced Level Electives <sup>1,2</sup>		4
PHYS 4073 Introduction to Quantum Mechanics (Fa) <sup>1,2,3</sup>		3
University/state core humanities or fine arts requirement (as needed)		3
General Electives		3
Select one of the following:		4
PHYS/ASTR Group A <sup>1,2,3</sup>		
3000+ Level Fulbright College Elective (if needed) <sup>1,2,3</sup>		
Advanced Level Electives <sup>3</sup>		
PHYS 4991 Physics Senior Seminar (Sp, Su, Fa) <sup>1,2,3</sup>		1
Advanced Level Electives <sup>1</sup>		9
Year Total:	16	14

Total Units in Sequence: 120

<sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations.

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations.

<sup>3</sup> Nine hours of upper division computer science or mathematics courses can count toward the physics major.

Group A: Any PHYS or ASTR classes numbered 3000 or above.

## Requirement for B.S. Degree with a Major in Physics

In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the University Core requirements.

The student must present a minimum of 39 semester hours in physics\* including:

PHYS 2054	University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa)	4
PHYS 2074	University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa)	4
PHYS 2094	University Physics III (Fa)	4
PHYS 3414	Electromagnetic Theory (Sp)	4
PHYS 3613	Modern Physics (Sp, Su, Fa)	3
PHYS 4073	Introduction to Quantum Mechanics (Fa)	3
PHYS 4991	Physics Senior Seminar (Sp, Su, Fa)	1

#### Mathematics Courses:

MATH 2554	Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	4
MATH 2564	Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa)	4
MATH 2574	Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa)	4
MATH 2584	Elementary Differential Equations (Sp, Su, Fa)	4
MATH 3083	Linear Algebra (Sp, Su, Fa)	3

#### Additional Science:

At least 8 hours of other science chosen from CHEM 1103/ CHEM 1101L, CHEM 1123/CHEM 1121L, CSCE 2004, CSCE 2014, BIOL 1543/BIOL 1541L (or BIOL 1584), GEOS 1113/GEOS 1111L, or GEOS 1133/GEOS 1131L, or an approved 8 hours of other laboratory-based courses from these departments.		8
Physics B.S. majors must complete all the requirements for one of seven available concentration areas. All concentrations consist of 16 credit hours with the exception of the Geophysics concentration, which requires 24.		16
Total Hours		66

\* Note: astronomy, biology, chemistry, computer science, and geosciences courses as specified within the concentration requirements listed below can be applied to this 39 hours.

<sup>1</sup> CSCE 3513, CSCE 4423, MEEG 2703, or GEOS 4223 can be substituted for MATH 3083 with the adviser's approval.

Majors must propose participation in a research experience project no later than the end of their junior year of study. A written report of the results must be submitted during Senior Seminar (PHYS 4991).

## Electronics Concentration

PHYS 3213	Electronics in Experimental Physics (Odd years, Sp)	3
PHYS 4333	Thermal Physics (Sp)	3
10 semester hours numbered 3000 and above in physics or astronomy.		10
Total Hours		16

**Writing Requirement:** Students majoring in physics may satisfy the Fulbright College writing requirement by means of a senior thesis (PHYS 498V), an honors thesis submitted in fulfillment of the requirements of the honors program (), or by means of a paper submitted as part of PHYS 4991 or any physics or astronomy course numbered 3000 or above. Students electing the last route must obtain approval of the instructor during the first three weeks of the semester. The research/

analytical paper should demonstrate competency in the use of word processing software and also at least one computer analytical tool such as a spreadsheet, mathematical or graphics program, or an original program written by the student.

**Assessment of Student Learning:** In accordance with state, University, and college requirements, all students must have learning assessed before graduation. Students majoring in physics will be assessed in the course PHYS 4991, which must be taken in the year prior to graduation.

## Physics B.S. with Electronics Concentration Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program as well as Fulbright College requirements.

Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area. Students should consult their advisers.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) <sup>1</sup>	4	
University/State Core US History/American National Government requirement	3	
PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa) <sup>1</sup>	4	
General Elective	1	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa) <sup>1</sup>		4
PHYS 2074 University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa) <sup>1</sup>		4
University/State Core Social Science requirement		3
General Elective		1
Year Total:	15	15

Second Year	Units	
	Fall	Spring
MATH 2574 Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa) <sup>1</sup>	4	
PHYS 2094 University Physics III (Fa) <sup>1</sup>	4	
Select one of the following four-hour lecture/lab combinations	4	
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) & CHEM 1101L University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)		

CHEM 1123 University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa)					
& CHEM 1121L University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)					
CSCE 2004 Programming Foundations I (Sp, Fa)					
CSCE 2014 Programming Foundations II (Sp, Fa)					
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa)					
& BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)					
or BIOL 1584 Biology for Majors (Sp, Fa)					
GEOS 1113 General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa)					
& GEOS 1111L General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)					
GEOS 1133 Earth Science (ACTS Equivalency = GEOL 1124 Lecture) (Sp, Fa)					
& GEOS 1131L Earth Science Laboratory (ACTS Equivalency = GEOL 1124 Lab) (Sp, Fa)					
University/State Core Fine Arts or Humanities requirement	3				
General Elective	1				
PHYS 3613 Modern Physics (Sp, Su, Fa) <sup>1,2</sup>	3				
PHYS 3213 Electronics in Experimental Physics (Odd years, Sp) <sup>1,2</sup>	3				
MATH 2584 Elementary Differential Equations (Sp, Su, Fa) <sup>1,2</sup>	4				
Select one of the following four-hour lecture/lab combinations	4				
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa)					
& CHEM 1101L University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)					
CHEM 1123 University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa)					
& CHEM 1121L University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)					
CSCE 2004 Programming Foundations I (Sp, Fa)					
CSCE 2014 Programming Foundations II (Sp, Fa)					
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa)					
& BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)					
or BIOL 1584 Biology for Majors (Sp, Fa)					
GEOS 1113 General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa)					
& GEOS 1111L General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)					
GEOS 1133 Earth Science (ACTS Equivalency = GEOL 1124 Lecture) (Sp, Fa)					
& GEOS 1131L Earth Science Laboratory (ACTS Equivalency = GEOL 1124 Lab) (Sp, Fa)					
General Elective					1
Year Total:		16			15
<b>Third Year</b>					
				<b>Fall</b>	<b>Spring</b>
University/State Core Social Science requirement			3		
MATH 3083 Linear Algebra (Sp, Su, Fa)			3		
University/State Core Humanities or Fine Arts requirement (as needed)			3		
General Elective			6		
PHYS 3414 Electromagnetic Theory (Sp) <sup>1,2</sup>					4
PHYS 4333 Thermal Physics (Sp) <sup>1,2</sup>					3
University/State Core Social Science requirement					3
General Elective					3
General Elective or PHYS/ASTR Group A <sup>1,2</sup>					3
Year Total:		15			16
<b>Fourth Year</b>					
				<b>Fall</b>	<b>Spring</b>
PHYS 4073 Introduction to Quantum Mechanics (Fa) <sup>1,2</sup>			3		
PHYS/ASTR Group A <sup>1,2</sup>			3		
PHYS/ASTR Group A or General Elective (as needed) <sup>1,2</sup>			3		
General Electives			6		
PHYS 4713 Solid State Physics (Even years, Sp) (Highly recommended; else other PHYS/ASTR Group A) <sup>1,2</sup>					3
PHYS/ASTR Group A (as needed) or General Elective					3
PHYS 4991 Physics Senior Seminar (Sp, Su, Fa) <sup>1,2</sup>					1
General Electives					6
Year Total:		15			13
Total Units in Sequence:					120
1 Meets 40-hour advanced credit hour requirement. See College Academic Regulations.					
2 Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations.					
Group A Any PHYS or ASTR classes numbered 3000 or above.					
A					

## Requirement for B.S. Degree with a Major in Physics

In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the University Core requirements.

The student must present a minimum of 39 semester hours in physics\* including:

PHYS 2054	University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa)	4
PHYS 2074	University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa)	4
PHYS 2094	University Physics III (Fa)	4
PHYS 3414	Electromagnetic Theory (Sp)	4
PHYS 3613	Modern Physics (Sp, Su, Fa)	3
PHYS 4073	Introduction to Quantum Mechanics (Fa)	3
PHYS 4991	Physics Senior Seminar (Sp, Su, Fa)	1

### Mathematics Courses:

MATH 2554	Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	4
MATH 2564	Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa)	4
MATH 2574	Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa)	4
MATH 2584	Elementary Differential Equations (Sp, Su, Fa)	4
MATH 3083	Linear Algebra (Sp, Su, Fa)	3

### Additional Science:

At least 8 hours of other science chosen from CHEM 1103/ CHEM 1101L, CHEM 1123/CHEM 1121L, CSCE 2004, CSCE 2014, BIOL 1543/BIOL 1541L (or BIOL 1584), GEOS 1113/GEOS 1111L, or GEOS 1133/GEOS 1131L, or an approved 8 hours of other laboratory-based courses from these departments.

Physics B.S. majors must complete all the requirements for one of seven available concentration areas. All concentrations consist of 16 credit hours with the exception of the Geophysics concentration, which requires 24.

Total Hours 66

\* Note: astronomy, biology, chemistry, computer science, and geosciences courses as specified within the concentration requirements listed below can be applied to this 39 hours.

<sup>1</sup> CSCE 3513, CSCE 4423, MEEG 2703, or GEOS 4223 can be substituted for MATH 3083 with the adviser's approval.

Majors must propose participation in a research experience project no later than the end of their junior year of study. A written report of the results must be submitted during Senior Seminar (PHYS 4991).

## Geophysics Concentration

PHYS 3113	Analytical Mechanics (Fa)	3
GEOS 1113 & GEOS 1111L	General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa) and General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)	4
GEOS 2313	Mineralogy and Petrology (Fa)	3

GEOS 3413	Sedimentary Rocks & Fossils (Sp)	3
GEOS 3514	Structural Geology (Sp)	4
GEOS 4223	Stratigraphy and Sedimentation (Fa)	3
GEOS 4924	Earth System History (ACTS Equivalency = PHSC 1104) (Sp)	4

Completion of GEOG 3383 Principles of Landscape Evolution and GEOL 4666 Geology Field Camp in addition to the stated requirements for a physics-geophysics major will enable a student to complete the requirements for a double major in physics and geology.

Total Hours 24

**Writing Requirement:** Students majoring in physics may satisfy the Fulbright College writing requirement by means of a senior thesis (PHYS 498V), an honors thesis submitted in fulfillment of the requirements of the honors program (), or by means of a paper submitted as part of PHYS 4991 or any physics or astronomy course numbered 3000 or above. Students electing the last route must obtain approval of the instructor during the first three weeks of the semester. The research/analytical paper should demonstrate competency in the use of word processing software and also at least one computer analytical tool such as a spreadsheet, mathematical or graphics program, or an original program written by the student.

**Assessment of Student Learning:** In accordance with state, University, and college requirements, all students must have learning assessed before graduation. Students majoring in physics will be assessed in the course PHYS 4991, which must be taken in the year prior to graduation.

## Physics B.S. Geophysics Concentration Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy in the Academic Regulations chapter for university requirements of the program as well as Fulbright College requirements.

Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area. Students should consult their advisers.

First Year	Units		
	Fall	Spring	Summer
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3		
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) <sup>1</sup>	4		
PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa) <sup>1</sup>	4		
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) & CHEM 1101L University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)	4		
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3	

PHYS 2074 University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa) <sup>1</sup>		4
MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa) <sup>1</sup>		4
GEOS 1113 General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa) & GEOS 1111L General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)		4
Year Total:	15	15

	Second Year			Units
	Fall	Spring	Summer	
PHYS 2094 University Physics III (Fa) <sup>1</sup>	4			
MATH 2584 Elementary Differential Equations (Sp, Su, Fa) <sup>1,2</sup>	4			
CHEM 1123 University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) & CHEM 1121L University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)	4			
GEOS 2313 Mineralogy and Petrology (Fa)	3			
PHYS 3613 Modern Physics (Sp, Su, Fa) <sup>1,2</sup>		3		
MATH 2574 Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa) <sup>1,2</sup>		4		
GEOS 3413 Sedimentary Rocks & Fossils (Sp)		3		
University/State Core Social Science Requirement		3		
General Elective		1		
Year Total:	15	14		

	Third Year			Units
	Fall	Spring	Summer	
PHYS 3113 Analytical Mechanics (Fa) <sup>2</sup>	3			
GEOS 4223 Stratigraphy and Sedimentation (Fa)	3			
GEOS 3383 Principles of Landscape Evolution (Fa)	3			
University/State Core History Requirement	3			
University/State Core Social Science Requirement	3			
GEOS 3514 Structural Geology (Sp)		4		
University/State Core Social Science Requirement		3		
General Electives		6		
GEOS 4686 Geology Field Camp (Su) <sup>2</sup>			6	
Year Total:	15	13	6	

	Fourth Year			Units
	Fall	Spring	Summer	
PHYS 4073 Introduction to Quantum Mechanics (Fa)	3			
GEOS 4433 Geophysics (Irregular)	3			
University/State Core Humanities or Fine Arts requirement (as needed)	3			
General Electives	3			
PHYS 3414 Electromagnetic Theory (Sp) <sup>2</sup>			4	
PHYS 4991 Physics Senior Seminar (Sp, Su, Fa) <sup>2</sup>			1	
GEOS 4924 Earth System History (ACTS Equivalency = PHSC 1104) (Sp)			4	
University/State Core Fine Arts or Humanities Requirement (as needed)			3	
General Electives			3	
Year Total:	12	15		

Total Units in Sequence: 120

- <sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations.
- <sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations.

## Requirement for B.S. Degree with a Major in Physics

In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the University Core requirements.

The student must present a minimum of 39 semester hours in physics\* including:

PHYS 2054	University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa)	4
PHYS 2074	University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa)	4
PHYS 2094	University Physics III (Fa)	4
PHYS 3414	Electromagnetic Theory (Sp)	4
PHYS 3613	Modern Physics (Sp, Su, Fa)	3
PHYS 4073	Introduction to Quantum Mechanics (Fa)	3
PHYS 4991	Physics Senior Seminar (Sp, Su, Fa)	1
<b>Mathematics Courses:</b>		
MATH 2554	Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	4
MATH 2564	Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa)	4
MATH 2574	Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa)	4
MATH 2584	Elementary Differential Equations (Sp, Su, Fa)	4



MATH 3083	Linear Algebra (Sp, Su, Fa)	3
<b>Additional Science:</b>		<b>8</b>

At least 8 hours of other science chosen from CHEM 1103/ CHEM 1101L, CHEM 1123/CHEM 1121L, CSCE 2004, CSCE 2014, BIOL 1543/BIOL 1541L (or BIOL 1584), GEOS 1113/GEOS 1111L, or GEOS 1133/GEOS 1131L, or an approved 8 hours of other laboratory-based courses from these departments.

Physics B.S. majors must complete all the requirements for one of seven available concentration areas. All concentrations consist of 16 credit hours with the exception of the Geophysics concentration, which requires 24.

Total Hours		66
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\* Note: astronomy, biology, chemistry, computer science, and geosciences courses as specified within the concentration requirements listed below can be applied to this 39 hours.

<sup>1</sup> CSCE 3513, CSCE 4423, MEEG 2703, or GEOS 4223 can be substituted for MATH 3083 with the adviser's approval.

Majors must propose participation in a research experience project no later than the end of their junior year of study. A written report of the results must be submitted during Senior Seminar (PHYS 4991).

## Optics Concentration

PHYS 3544	Optics (Fa)	4
PHYS 4734	Introduction to Laser Physics (Sp)	3-4
	or PHYS 4773 Introduction to Optical Properties of Materials (Even years, Sp)	
8-9 semester hours (to total 16 hours total for the concentration)		8-9
numbered 3000 and above in physics or astronomy.		
Total Hours		16

**Writing Requirement:** Students majoring in physics may satisfy the Fulbright College writing requirement by means of a senior thesis (PHYS 498V), an honors thesis submitted in fulfillment of the requirements of the honors program (), or by means of a paper submitted as part of PHYS 4991 or any physics or astronomy course numbered 3000 or above. Students electing the last route must obtain approval of the instructor during the first three weeks of the semester. The research/analytical paper should demonstrate competency in the use of word processing software and also at least one computer analytical tool such as a spreadsheet, mathematical or graphics program, or an original program written by the student.

**Assessment of Student Learning:** In accordance with state, University, and college requirements, all students must have learning assessed before graduation. Students majoring in physics will be assessed in the course PHYS 4991, which must be taken in the year prior to graduation.

## Physics B.S. with Optics Concentration Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program as well as Fulbright College requirements.

Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students

may substitute a three-hour (or more) general elective in place of a core area. Students should consult their advisers.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) <sup>1</sup>	4	
PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa) <sup>1</sup>	4	
University/State Core US History requirement	3	
General Elective	1	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa) <sup>1</sup>		4
PHYS 2074 University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa) <sup>1</sup>		4
University/State Core Fine Arts or Humanities requirement		3
General Electives		2
Year Total:	15	16

Second Year	Units	
	Fall	Spring
PHYS 2094 University Physics III (Fa) <sup>1</sup>	4	
Select one of the following four-hour lecture/lab combinations	4	
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) & CHEM 1101L University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)		
CHEM 1123 University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) & CHEM 1121L University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)		
CSCE 2004 Programming Foundations I (Sp, Fa)		
CSCE 2014 Programming Foundations II (Sp, Fa)		
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)		
or BIOL 1584 Biology for Majors (Sp, Fa)		
GEOS 1113 General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa) & GEOS 1111L General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)		

GEOS 1133 Earth Science (ACTS Equivalency = GEOL 1124 Lecture) (Sp, Fa) & GEOS 1131L Earth Science Laboratory (ACTS Equivalency = GEOL 1124 Lab) (Sp, Fa)		
MATH 2574 Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa) <sup>1</sup>	4	
University/State Core Humanities or Fine Arts requirement (as needed)	3	
General Elective	1	
PHYS 3613 Modern Physics (Sp, Su, Fa) <sup>1,2</sup>	3	
PHYS 3213 Electronics in Experimental Physics (Odd years, Sp) (Recommended; else, 3000+ level PHYS or ASTR course) <sup>1,2</sup>	3	
MATH 2584 Elementary Differential Equations (Sp, Su, Fa) <sup>1,2</sup>	4	
Select one of the following four-hour lecture/lab combinations	4	
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) & CHEM 1101L University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)		
CHEM 1123 University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) & CHEM 1121L University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)		
CSCE 2004 Programming Foundations I (Sp, Fa)		
CSCE 2014 Programming Foundations II (Sp, Fa)		
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa) or BIOL 1584 Biology for Majors (Sp, Fa)		
GEOS 1113 General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa) & GEOS 1111L General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)		
GEOS 1133 Earth Science (ACTS Equivalency = GEOL 1124 Lecture) (Sp, Fa) & GEOS 1131L Earth Science Laboratory (ACTS Equivalency = GEOL 1124 Lab) (Sp, Fa)		
Year Total:	16	14

Third Year	Units	
	Fall	Spring
PHYS/ASTR Group A <sup>1,2</sup>	4	
PHYS/ASTR Group A or General Elective	4	
MATH 3083 Linear Algebra (Sp, Su, Fa)	3	
University/State Core Social Science requirement	3	
PHYS 3414 Electromagnetic Theory (Sp) <sup>1,2</sup>		4
University/State Core Social Science requirement		3

University/State Core Social Science requirement	3
General Elective or PHYS/ASTR Group A (as needed) <sup>1,2</sup>	3-4
General Elective	3
Year Total:	14 16

Fourth Year	Units	
	Fall	Spring
PHYS 4073 Introduction to Quantum Mechanics (Fa) <sup>1,2</sup>	3	
PHYS 3544 Optics (Fa) <sup>1,2</sup>	4	
General Electives	9	
PHYS 4991 Physics Senior Seminar (Sp, Su, Fa) <sup>1,2</sup>		1
PHYS 4734 Introduction to Laser Physics (Sp) <sup>1,2</sup> or PHYS 4773 Introduction to Optical Properties of Materials (Even years, Sp)		4
General Electives		8
Year Total:	16	13

Total Units in Sequence: 120

<sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations.

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations.

Group A: Any PHYS or ASTR classes numbered 3000 or above.

## Requirement for B.S. Degree with a Major in Physics

In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the University Core requirements.

The student must present a minimum of 39 semester hours in physics\* including:

PHYS 2054	University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa)	4
PHYS 2074	University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa)	4
PHYS 2094	University Physics III (Fa)	4
PHYS 3414	Electromagnetic Theory (Sp)	4
PHYS 3613	Modern Physics (Sp, Su, Fa)	3
PHYS 4073	Introduction to Quantum Mechanics (Fa)	3
PHYS 4991	Physics Senior Seminar (Sp, Su, Fa)	1

### Mathematics Courses:

MATH 2554	Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	4
MATH 2564	Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa)	4
MATH 2574	Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa)	4

MATH 2584	Elementary Differential Equations (Sp, Su, Fa)	4
MATH 3083	Linear Algebra (Sp, Su, Fa)	3
<b>Additional Science:</b>		<b>8</b>
At least 8 hours of other science chosen from CHEM 1103/ CHEM 1101L, CHEM 1123/CHEM 1121L, CSCE 2004, CSCE 2014, BIOL 1543/BIOL 1541L (or BIOL 1584), GEOS 1113/GEOS 1111L, or GEOS 1133/GEOS 1131L, or an approved 8 hours of other laboratory-based courses from these departments.		
Physics B.S. majors must complete all the requirements for one of seven available concentration areas. All concentrations consist of 16 credit hours with the exception of the Geophysics concentration, which requires 24.		16
Total Hours		66

\* Note: astronomy, biology, chemistry, computer science, and geosciences courses as specified within the concentration requirements listed below can be applied to this 39 hours.

<sup>1</sup> CSCE 3513, CSCE 4423, MEEG 2703, or GEOS 4223 can be substituted for MATH 3083 with the adviser's approval.

Majors must propose participation in a research experience project no later than the end of their junior year of study. A written report of the results must be submitted during Senior Seminar (PHYS 4991).

## Professional Concentration

PHYS 3113	Analytical Mechanics (Fa)	3
PHYS 4333	Thermal Physics (Sp)	3
10 semester hours numbered 3000 and above in physics or astronomy.		10
Total Hours		16

**Writing Requirement:** Students majoring in physics may satisfy the Fulbright College writing requirement by means of a senior thesis (PHYS 498V), an honors thesis submitted in fulfillment of the requirements of the honors program (), or by means of a paper submitted as part of PHYS 4991 or any physics or astronomy course numbered 3000 or above. Students electing the last route must obtain approval of the instructor during the first three weeks of the semester. The research/analytical paper should demonstrate competency in the use of word processing software and also at least one computer analytical tool such as a spreadsheet, mathematical or graphics program, or an original program written by the student.

**Assessment of Student Learning:** In accordance with state, University, and college requirements, all students must have learning assessed before graduation. Students majoring in physics will be assessed in the course PHYS 4991, which must be taken in the year prior to graduation.

## Physics B.S. with Professional Concentration Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program as well as Fulbright College requirements.

Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area. Students should consult their advisers.

	Units	
	Fall	Spring
<b>First Year</b>		
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) <sup>1</sup>	4	
PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa) <sup>1</sup>	4	
University/State Core U.S. History requirement	3	
General Elective	1	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa) <sup>2</sup>		4
PHYS 2074 University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa) <sup>1</sup>		4
University/State Core Social Science requirement		3
General Elective		1
Year Total:	15	15

	Units	
	Fall	Spring
<b>Second Year</b>		
PHYS 2094 University Physics III (Fa) <sup>1</sup>	4	
MATH 2574 Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa) <sup>1</sup>	4	
Select one of the following four-hour lecture/lab combinations	4	
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) & CHEM 1101L University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)		
CHEM 1123 University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) & CHEM 1121L University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)		
CSCE 2004 Programming Foundations I (Sp, Fa)		
CSCE 2014 Programming Foundations II (Sp, Fa)		
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa) or BIOL 1584 Biology for Majors (Sp, Fa)		
GEOS 1113 General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa) & GEOS 1111L General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)		
GEOS 1133 Earth Science (ACTS Equivalency = GEOL 1124 Lecture) (Sp, Fa) & GEOS 1131L Earth Science Laboratory (ACTS Equivalency = GEOL 1124 Lab) (Sp, Fa)		

University/State Core Social Science requirement	3	
General Elective	1	
PHYS 3613 Modern Physics (Sp, Su, Fa) <sup>1,2</sup>	3	
PHYS 3213 Electronics in Experimental Physics (Odd years, Sp) (Recommended; else, PHYS/ASTR Group A) <sup>1,2</sup>	3	
MATH 2584 Elementary Differential Equations (Sp, Su, Fa) <sup>1,2</sup>	4	
Select one of the following four-hour lecture/lab combinations	4	
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) & CHEM 1101L University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)		
CHEM 1123 University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) & CHEM 1121L University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)		
CSCE 2004 Programming Foundations I (Sp, Fa)		
CSCE 2014 Programming Foundations II (Sp, Fa)		
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)		
GEOS 1113 General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa) & GEOS 1111L General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)		
GEOS 1133 Earth Science (ACTS Equivalency = GEOL 1124 Lecture) (Sp, Fa) & GEOS 1131L Earth Science Laboratory (ACTS Equivalency = GEOL 1124 Lab) (Sp, Fa)		
Year Total:	16	14

Third Year	Units	
	Fall	Spring
PHYS 3113 Analytical Mechanics (Fa) <sup>1,2</sup>	3	
Advanced Level Elective <sup>1</sup>	3	
MATH 3083 Linear Algebra (Sp, Su, Fa)	3	
University/State Core Fine Arts or Humanities requirement	3	
University/State Core Social Science requirement	3	
PHYS 3414 Electromagnetic Theory (Sp) <sup>1,2</sup>	4	
PHYS 4333 Thermal Physics (Sp) <sup>1,2</sup>	3	
University/State Core Humanities or Fine Arts requirement	3	
General Electives	6	
Year Total:	15	16

Fourth Year	Units	
	Fall	Spring
PHYS 4073 Introduction to Quantum Mechanics (Fa) <sup>2</sup>	3	
PHYS/ASTR Group A <sup>2</sup>	3	
PHYS 462VL Modern Physics Laboratory (Sp) (Highly recommended, else PHYS/ASTR Group A)	1	
General Elective (as needed for a minimum of 14 hours)	9	
PHYS/ASTR Group A <sup>1,2</sup>		3
PHYS/ASTR Group A (as needed) or General Electives		3
PHYS 4991 Physics Senior Seminar (Sp, Su, Fa) <sup>1,2</sup>		1
General Electives (as needed to total 120 hours)		6
Year Total:	16	13

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Total Units in Sequence: 120

- <sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations.
- <sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations.

PHYS or PHYS or ASTR courses numbered 3000 or above.  
 ASTR  
 Group  
 A

## Requirements for a B.A. Degree with a Major in Physics:

This track is for students desiring a broader program in the arts, sciences, and social sciences while majoring in physics. This program is recommended for pre-medical, journalism, pre-business, pre-law and other students planning careers in fields for which a physics education would be beneficial. For B.A. students seeking teaching licensure, see the Teacher Licensure Requirements below. This program requires a total of 120 semester hours. The student must present 24 semester hours in physics or astronomy, including:

PHYS 2013 & PHYS 2011L	College Physics I (ACTS Equivalency = PHYS 2014 Lecture) (Su, Fa) and College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab) (Su, Fa)	4
PHYS 2033 & PHYS 2031L	College Physics II (ACTS Equivalency = PHYS 2024 Lecture) (Sp, Su) and College Physics II Laboratory (ACTS Equivalency = PHYS 2024 Lab) (Su)	4
PHYS 3603 & PHYS 360VL	Introduction to Modern Physics (Fa) and Modern Physics Laboratory (Sp)	4-6
PHYS 4991	Physics Senior Seminar (Sp, Su, Fa)	1
	Eleven semester hours chosen from any physics or astronomy courses at the 3000 level or above.	11
The student must also present:		
MATH 1284C	Precalculus Mathematics (ACTS Equivalency = MATH 1305) (Sp, Su, Fa)	4
	or MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	

	or MATH 1213 Plane Trigonometry (ACTS Equivalency = MATH 1203) (Sp, Su, Fa)	
MATH 2554	Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	4
	or MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)	

and two additional courses at the 2000 level or above in mathematics or statistics 6-8

An additional 9 semester hours at the 3000-level or above must be taken from a single special emphasis area chosen with the adviser's approval. The special emphasis area may be chosen in any single degree-granting department at the University of Arkansas. For B.A. students seeking teacher licensure, the special emphasis area may involve courses from more than one degree-granting department at the University of Arkansas with the approval of their adviser. 9

Total Hours 47-51

**Writing Requirement:** Students majoring in physics may satisfy the Fulbright College writing requirement by means of a senior thesis (PHYS 498V), an honors thesis submitted in fulfillment of the requirements of the honors program (), or by means of a paper submitted as part of PHYS 4991 or any physics or astronomy course numbered 3000 or above. Students electing the last route must obtain approval of the instructor during the first three weeks of the semester. The research/analytical paper should demonstrate competency in the use of word processing software and also at least one computer analytical tool such as a spreadsheet, mathematical or graphics program, or an original program written by the student.

**Assessment of Student Learning:** In accordance with state, University, and college requirements, all students must have learning assessed before graduation. Students majoring in physics will be assessed in the course PHYS 4991, which must be taken in the year prior to graduation.

## Physics B.A. Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program as well as the Fulbright College requirements. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

The Physics B.A. program includes requirements for a special emphasis area. In this case, journalism was used as an example. Journalism courses indicated below are recommended by the Department of Journalism as the foundation needed for science reporting. It is recommended that the free electives be chosen in a second science, or in journalism.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
Select one of the following:	3	
JOUR 1023 Media and Society (Sp, Fa) (required for journalism sequence) <sup>3</sup>		
General Elective		

MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3-4	
or MATH 1284C Precalculus Mathematics (ACTS Equivalency = MATH 1305) (Sp, Su, Fa)		
University/State Core Fine Arts or Humanities or US History requirement		3
General Elective		3
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
Select one of the following:		3
JOUR 1033 Fundamentals of Journalism (Sp, Su, Fa) (required for journalism sequence) <sup>3</sup>		
General Elective		
Select one of the following:		3-4
MATH 1213 Plane Trigonometry (ACTS Equivalency = MATH 1203) (Sp, Su, Fa) (as required)		
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) <sup>1</sup>		
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) <sup>1</sup>		
University/State Core Humanities or US History or Fine Arts requirement		3
University/State Core Social Science requirement		3
Year Total:	15	15

Second Year	Units	
	Fall	Spring
PHYS 2013 College Physics I (ACTS Equivalency = PHYS 2014 Lecture) (Su, Fa)	4	
& PHYS 2011L College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab) (Su, Fa) <sup>1</sup>		
University/State Core U.S. History or Fine Arts or Humanities requirement		3
University/State Core Social Science requirement		3
Select one of the following:		3-4
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) (as required) <sup>1</sup>		
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) <sup>1</sup>		
MATH/STAT Elective <sup>1</sup>		
Select one of the following:		3
JOUR 2013 News Reporting I (Sp, Fa) (pre-req. JOUR 1023 and 1033) <sup>1,3</sup>		
General Elective		
PHYS 2033 College Physics II (ACTS Equivalency = PHYS 2024 Lecture) (Sp, Su)		4
& PHYS 2031L College Physics II Laboratory (ACTS Equivalency = PHYS 2024 Lab) (Su) <sup>1</sup>		
Select one of the following:		3
JOUR 3023 News Reporting II (Sp, Fa) <sup>1,2,3</sup>		
Other Special Emphasis Area <sup>4</sup>		
MATH or STAT elective <sup>1</sup>		3
General Electives		6
Year Total:	16	16

Third Year	Units	
	Fall	Spring
PHYS 3603 Introduction to Modern Physics (Fa) <sup>1,2</sup>	3	
MATH/STAT elective (as required) or General Elective <sup>1</sup>	3	
Select one of the following:	3	
JOUR 3633 Media Law (Sp, Fa) <sup>1,2,3</sup>		
Other Special Emphasis Area <sup>4</sup>		
General Electives	6	
PHYS 360VL Modern Physics Laboratory (Sp)		1-3
PHYS/ASTR Group A <sup>1,2</sup>		3
Select one of the following:		3
JOUR 3013 Editing (Sp, Fa) <sup>1,2,3</sup>		
Other Special Emphasis Area <sup>4</sup>		
3000+ Advanced Level Elective <sup>1</sup>		3
General Electives		6
Year Total:	15	16

Fourth Year	Units	
	Fall	Spring
PHYS/ASTR Group A <sup>1,2</sup>	2-4	
PHYS/ASTR Group A <sup>1,2</sup>	3-4	
Fulbright College 3000+ Elective (as needed) <sup>1,2</sup>	3	
Advanced level elective <sup>1</sup>	6	
PHYS 4203 Physics of Devices (Even years, Sp) (or other PHYS/ASTR Group A) <sup>1,2</sup>		3
PHYS 4991 Physics Senior Seminar (Sp, Su, Fa) <sup>1,2</sup>		1
3000+ Advanced level elective (as needed) or General Elective <sup>1</sup>		3
General Electives (as needed to total 120 degree credits)		6
Year Total:	14	13
Total Units in Sequence:		120

<sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations.

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations.

<sup>3</sup> Required for journalism emphasis.

<sup>4</sup> Additional 9 semester hours at 3000 level or above from a single emphasis area chosen with adviser approval. This requirement is automatically fulfilled by the bold-faced upper-level journalism courses.

Group A Even semester hours chosen from: Any PHYS or ASTR classes numbered 3000 or above.

**Requirements for a Minor in Physics:** Students wishing to obtain a minor in physics must take either:

Select one of the following: 8

PHYS 2013	College Physics I (ACTS Equivalency = PHYS & PHYS 2011L 2014 Lecture) (Su, Fa)	
& PHYS 2033	and College Physics I Laboratory (ACTS & PHYS 2031L Equivalency = PHYS 2014 Lab) (Su, Fa)	
	and College Physics II (ACTS Equivalency = PHYS 2024 Lecture) (Sp, Su)	
	and College Physics II Laboratory (ACTS Equivalency = PHYS 2024 Lab) (Su)	
PHYS 2054	University Physics I (ACTS Equivalency = PHYS & PHYS 2074 2034) (Sp, Su, Fa)	
	and University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa)	
Plus at least seven additional hours of physics courses numbered 3000 or above.		7
Total Hours		15

A student must notify the department of his or her intent to minor.

**Requirements for Departmental Honors in Physics:** The Departmental Honors Program in Physics provides upper-division undergraduate students with an opportunity to formally participate in scholarly physics activities. Honors candidates carry out independent study and research under the guidance of the physics faculty and participate in special honors classes, seminars, and colloquia. Outstanding student achievement will be recognized by awarding the distinction "Physics Scholar *Cum Laude*" at graduation. Higher degree distinctions are recommended only in truly exceptional cases and are based upon the whole of the candidate's program of honors studies. In addition to satisfying the general college requirements for the bachelor's degree with honors, an honors candidate in physics must

1. Become a candidate no later than the first semester of the junior year of study,
2. Enroll in honors sections of physics courses when available,
3. Complete a minimum of 12 hours of honors coursework to include: Six hours of honors research PHYS 399VH and Three hours of physics honors colloquium PHYS 3923H,
4. Complete and orally defend an honors thesis based upon the project carried out in PHYS 399VH,
5. Achieve a cumulative grade-point average of 3.125 in physics, and
6. Maintain a 3.50 grade-point average overall.

#### **Physics (B.A. or B.S.) Physical Science Teacher Licensure Requirements:**

Please refer to the Secondary Education Requirements (p. 186) for Fulbright College Students. Students wishing to pursue licensure through the UAteach undergraduate curriculum should consult with a UAteach adviser, [uteach@uark.edu](mailto:uteach@uark.edu).

Students wanting to teach science in middle school should consult with a middle level adviser in the College of Education and Health Professions.

## Political Science (PLSC) Faculty

**A. Burcu Bayram**, Assistant Professor  
**Patrick J. Conge**, Associate Professor  
**Anne B. Diallo**, Visiting Assistant Professor  
**Andrew J. Dowdle**, Professor  
**Pearl Karen Dowe**, Associate Professor  
**J. Michael Flanigan**, Lecturer

**John Gaber**, Professor  
**Najib Ghadbian**, Associate Professor  
**Valerie H. Hunt**, Associate Professor  
**Donald R. Kelley**, Professor  
**Brinck Kerr III**, Professor  
**Nathan C. Looney**, Lecturer  
**Angie Maxwell**, Associate Professor, Diane D. Blair Professor of Southern Studies  
**D. Xavier Medina Vidal**, Assistant Professor, Diane D. Blair Professor of Latino Studies  
**Joshua Lee Mitchell**, Assistant Professor  
**Zoe E. Naylor**, Instructor  
**Janine A. Parry**, Professor  
**Margaret F. Reid**, Professor  
**Jeffrey J. Ryan**, Associate Professor  
**William D. Schreckhise**, Associate Professor  
**Karen Denice Sebold**, Clinical Assistant Professor  
**Todd G. Shields**, Professor  
**Geoboo Song**, Assistant Professor  
**Patrick A. Stewart**, Associate Professor  
**W. Curt Sullivan**, Lecturer  
**Ka Zeng**, Professor

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Department of Political Science website (<http://fulbright.uark.edu/departments/political-science>)

The Department of Political Science offers a major leading to a Bachelor of Arts degree, three combined majors, also leading to Bachelor of Arts degrees, and two minors, one in legal studies and a second interdisciplinary minor in urban planning. Political science is the traditional undergraduate degree choice for those considering law school. It is also ideal preparation for a career in government service, including internationally-oriented paths like the foreign service, intelligence, and foreign aid/development agencies, and domestic political careers like consulting, research, polling, and policy/campaign staff.

For requirements for the M.A. degree in political science, the M.P.A degree, or the dual J.D./M.A. and J.D./M.P.A. degrees, see the *Graduate School Catalog*.

## Requirements for B.A. Degree with a Major in Political Science

In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following course requirements must be met.

30 semester hours of PLSC courses, at least 21 of which must be above 3000.

1. Students are required to take both:  
 PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)  
 and  
 PLSC 2013 Introduction to Comparative Politics (Sp, Su, Fa)
2. Students must choose one of the following:  
 PLSC 2813 Introduction to International Relations (Sp, Fa)  
 or

PLSC 3103 Public Administration (Sp)

3. Students fulfill the remaining requirements from among any of the available political science courses.

At least 21 hours must be 3000-4000 level courses. No more than 9 hours may come from PLSC 300V, PLSC 394V, PLSC 498V, or PLSC 499VH.

**Additional Course Requirements (3-12 hours):** Students must satisfy either Requirement A or Requirement B.

### Requirement A:

Students must demonstrate proficiency in a single modern or classical language other than English by completion of a world language course numbered 2013 (Intermediate II). This is usually accomplished through completion of a sequence of four language courses: 1003, 1013, 2003 and 2013.

Students may seek credit for any omitted courses in the language sequence (based on placement at a higher level), by passing an advanced language course with a grade of "C" or above. Such credit will be awarded at the request of the student by filing application to the World Languages, Literatures, and Cultures (WLLC) Department. Students with advanced knowledge of a language may also contact the WLLC Department regarding credit by exam.

Students pursuing this track must complete an approved university/state core humanities course in addition to the world language 2003 Intermediate I course, if credit for 2003 is earned.

Requirement B:

Students must complete these three requirements:

PHIL 2003	Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)	3
or PHIL 2203	Logic (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)	
STAT 2303	Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)	3
	or WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa)	
Select one of the following:		3-4
MATH 2033	Mathematical Thought (Sp, Su, Fa)	
MATH 2043	Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)	
MATH 2053	Finite Mathematics (Sp, Su, Fa)	
MATH 2183	Mathematical Reasoning in a Quantitative World (Sp, Fa)	
MATH 2554	Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	

Students pursuing this track must complete an approved university/state core humanities course in addition to either the PHIL 2003 or PHIL 2203 course used to satisfy Requirement B.

**Writing Requirement:** The college writing requirement is fulfilled by submitting an acceptable research/analytical paper to the department for approval at least four weeks prior to graduation. The paper may be derived from completion of an honors essay (PLSC 499VH), a senior thesis (PLSC 498V), or some other advanced course in political science. The student is urged to consult with his or her faculty adviser no later than early in the first semester of the senior year.

## Political Science B.A. Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should also see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program as well as the Fulbright College requirements. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general or advanced elective in place of a core area.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
Select one of the following:	3-4	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (if required)		
MATH 2033 Mathematical Thought (Sp, Su, Fa) <sup>1</sup>		
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)		
MATH 2053 Finite Mathematics (Sp, Su, Fa)		
MATH 2183 Mathematical Reasoning in a Quantitative World (Sp, Fa)		
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)		
PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)	3	
Fine Arts or Humanities University/State Core Course <sup>3</sup>	3	
General Elective	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
PLSC 2013 Introduction to Comparative Politics (Sp, Su, Fa)		3
University/State Core Social Science Course		3
Select one of the following:	3-4	
Track A		
World Language 1013 Elementary II Level		
Track B		
MATH 2033 Mathematical Thought (Sp, Su, Fa) <sup>1</sup>		
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)		
MATH 2053 Finite Mathematics (Sp, Su, Fa)		
MATH 2183 Mathematical Reasoning in a Quantitative World (Sp, Fa)		
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)		
STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa) <sup>1</sup>		
WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa)		
Fine Arts or Humanities University/State Core Course, as needed <sup>3</sup>	3	

Year Total: 15 15

Second Year	Units	
	Fall	Spring
PLSC 2813 Introduction to International Relations (Sp, Fa) <sup>1</sup> or PLSC 3103 Public Administration (Sp)	3	
Non-PLSC Social Science Core Course	3	
Select one of the following:	3	
Track A		
World Language 2003 Intermediate I Level <sup>3</sup>		
Track B, as needed		
STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa) <sup>1</sup>		
WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa)		
General Elective		
Science University/State Core Lecture with Corequisite Lab	4	
General Elective	3	
PLSC 3000-4000+ Level Elective <sup>1,2</sup>		3
PLSC 3000-4000+ Level Elective <sup>1,2</sup>		3
Select one of the following:		3
Track A		
World Language 2013 Intermediate II level		
Track B		
PHIL 2003 Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa) or PHIL 2203 Logic (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)		
Fulbright College 3000-4000+ Level Elective <sup>1,2</sup>		3
Science University/State Core Lecture with Corequisite Lab		4
Year Total:	16	16

Third Year	Units	
	Fall	Spring
PLSC 3000-4000+ Level Elective <sup>1,2</sup>	3	
PLSC 3000-4000+ Level Elective <sup>1,2</sup>	3	
Advanced Level Elective <sup>1</sup>	3	
Advanced Level Elective <sup>1</sup>	3	
Advanced Level Elective <sup>1</sup>	3	
PLSC 3000-4000+ Level Elective <sup>1,2</sup>		3
PLSC 3000-4000+ Level Elective <sup>1,2</sup>		3
3000-4000+ Level Elective <sup>1</sup>		3
General Electives or Advanced Electives		6
Year Total:	15	15

Fourth Year	Units	
	Fall	Spring
PLSC 3000-4000+ Level Elective <sup>1,2</sup>	3	
Advanced Level Elective <sup>1</sup>	3	
3000-4000+ Level Elective <sup>1</sup>	3	
General Electives	6	



General Electives as needed to total 120 degree credits	13
Year Total:	15 13

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Total Units in Sequence: 120

- <sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations (p. 183).
- <sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations (p. 183).
- <sup>3</sup> Track A students must complete a university/state humanities course in addition to a 2003 Intermediate I world language course taken in progress to fulfill the Track A language requirement. Track B students must complete a university/state humanities core course in addition to the PHIL course used to satisfy the Track B philosophy requirement.

## Combined Majors

**Political Science and African American Studies:** For the requirements for a combined major in political science and African and African American studies (p. 198).

**Political Science and Journalism:** The combined major in political science and journalism is recommended for those students who have a strong interest in the reporting of public affairs as a career. For requirements, please refer to the combined major in Journalism and Political Science (p. 278). Students should consult with their adviser in each department.

**Political Science and Latin American and Latino Studies:** For the requirements for a combined major in political science and Latin American and Latino studies (p. 281).

## Minor in Political Science

Requirements are 18 hours including PLSC 2003 and PLSC 2013. At least 9 hours must come from courses numbered 3000 or above. Students should consult with the political science adviser in Fulbright College for the selection of appropriate courses.

## Minor in Legal Studies

This minor will introduce undergraduate students to the study and application of law by taking law-related courses in a number of disciplines. It provides a focus for students who are interested in the law, whose careers will require a measure of legal knowledge, or for those considering entering law school.

**Requirements for a Minor in Legal Studies:** 15 semester hours from the following:

AGEC 3503	Agricultural Law I (Fa)	3
BLAW 3033	Commercial Law (Sp)	3
CMJS 2043	Criminal Law and Society (Sp, Fa)	3
CMJS 3503	Criminal Procedures (Irregular)	3
CMJS 3513	Criminal Evidence (Irregular)	3
COMM 4113	Legal Communication (Irregular)	3
FDSC 3202	Introduction to Food Law (Sp)	2
JOUR 3633	Media Law (Sp, Fa)	3
OMGT 4313	Law and Ethics (Sp, Su, Fa)	3
PHIL 4143	Philosophy of Law (Irregular)	3

PLSC 3203	Introduction to Legal Studies (Sp, Fa)	3
PLSC 3213	The South and the Law: Race, Gender, and Citizenship (Fa)	3
PLSC 3243	The Judicial Process (Fa)	3
PLSC 3813	International Law (Fa)	3
PLSC 4193	Administrative Law (Sp)	3
PLSC 4253	The U.S. Constitution I (Sp)	3
PLSC 4263	The U.S. Constitution II (Irregular)	3

Students should consult with their adviser each semester.

## Minor in Planning

The departments of Landscape Architecture and Political Science collaboratively offer an interdisciplinary minor in Planning for students interested in regional and urban planning. A student who wants to minor in Planning should notify either the Department of Landscape Architecture or Political Science and consult an academic adviser. A Planning minor consists of 18 hours of required and elective courses subdivided into three concentrations. A student should choose one concentration and take 6 hours of elective courses in that concentration. The minor's required and elective courses include:

### Required Courses:

LARC 5386	Landscape Architecture Design VIII (Sp)	6
or LARC 5493	Environmental Land Use Planning (Sp)	
and one 3 credit-hour elective from the Spatial Concentration		
PLSC 3253	Urban Politics (Sp)	3
PLSC 4103	Introduction to Urban Planning (Fa)	3

### Electives 6

Select two courses from one group

#### Policy Group:

ANTH 4443	Cultural Resource Management I (Sp)
ANTH 5113	Anthropology of the City (Irregular)
ENSC 3413	Principles of Environmental Economics (Sp)
LARC 4033	Theory (Fa)
LARC 4743	Public Participation in Design and Planning (Irregular) (Public Participation in Design and Planning not offered until 2014)

PLSC 390V	Special Topics (Sp, Su, Fa)
PLSC 4283	Federalism and Intergovernmental Relations (Even years, Sp)
HDFS 4603	Environmental Sociology (Fa)
SCMT 3443	Transportation and Distribution Management (Sp, Fa)

#### Spatial Group:

ARCH 5493	History of Urban Form (Irregular)
ARCH 5933	Preservation and Restoration (Irregular)
ANTH 5113	Anthropology of the City (Irregular)
ENSC 3413	Principles of Environmental Economics (Sp)
GEOS 4073	Urban Geography (Sp)
LARC 402V	Special Studies (Irregular)
LARC 4033	Theory (Fa)
LARC 4753	Incremental Sprawl Repair (Irregular) (Incremental Sprawl Repair not offered until 2014)
LARC 5053	Historic Landscape Preservation (Irregular)
HDFS 4603	Environmental Sociology (Fa)

**Environmental Group:**

ANTH 4443	Cultural Resource Management I (Sp)
ANTH 4603	Landscape Archaeology (Fa)
BIOL 3863	General Ecology (Sp, Fa)
ENSC 3223	Ecosystems Assessment (Even years, Fa)
ENSC 3221L	Ecosystems Assessment Laboratory (Even years, Fa)
ENSC 3413	Principles of Environmental Economics (Sp)
LARC 4033	Theory (Fa)
LARC 5053	Historic Landscape Preservation (Irregular)
HDFS 4603	Environmental Sociology (Fa)
Total Hours	18

**Requirements for Graduation with Honors in Political Science:** Both the College and the Departmental Honors Program in Political Science provide undergraduate students the opportunity to participate in directed independent study and scholarly activity. Admission to the Fulbright Honors Program is open to Political Science majors with a minimum, cumulative grade point average of 3.5 in all their coursework. Honors candidates must complete at least 12 hours of honors courses, which will include 6 hours of thesis.

Honors candidates carry out independent study and research under the guidance of political science faculty and participate in special honors classes and colloquia. To successfully complete the required thesis, students should choose an honors thesis adviser as early as possible. An adviser should be selected and an Honors Agreement completed no later than the first semester in a student's junior year.

Honors candidates must meet the College's requirements for an honors degree. Students graduating with honors typically graduate with the distinction *cum laude*. Higher degree distinctions (*magna cum laude*, *summa cum laude*) are awarded by the Honors Council, are recommended only in truly exceptional cases, and are based on the whole of the candidate's program of honors studies.

**Political Science (B.A.) Social Studies Teaching Licensure Requirements:**

Please refer to the Secondary Education Requirements (p. 186) for Fulbright College Students.

Students wanting to teach social studies in middle school should consult with a middle level adviser in the College of Education and Health Professions.

## Psychology (PSYC)

### Faculty

**Nancy D. Alwood**, Instructor  
**Douglas A. Behrend**, Professor  
**Denise R. Beike**, Professor  
**Ana Julia Bridges**, Associate Professor  
**Timothy A. Cavell**, Professor  
**Kate M. Chapman**, Visiting Assistant Professor  
**Christopher Ditzfeld**, Instructor  
**Alex R. Dopp**, Assistant Professor  
**Scott H. Eidelman**, Associate Professor  
**Matthew T. Feldner**, Professor  
**Patrick Forscher**, Assistant Professor  
**Lindsay S. Ham-Holm**, Associate Professor

**Jeremy Holm**, Instructor  
**Connie Lamm**, Assistant Professor  
**James Michael Lampinen**, Distinguished Professor  
**Ellen Winifred Leen-Feldner**, Professor  
**William H. Levine**, Associate Professor  
**Elizabeth Hellmuth Margulis**, Professor  
**Nathan A. Parks**, Assistant Professor  
**Patricia Ann Louise Petretic**, Associate Professor  
**Jennifer Celene Veilleux**, Associate Professor  
**Brenda June Zies**, Visiting Assistant Professor

Douglas A. Behrend  
 Chair of the Department  
 216 Memorial Hall  
 479-575-4256  
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The Department of Psychological Science offers a major leading to a Bachelor of Arts in psychology. Psychologists are the scientists of human behavior and mental processes. They approach these areas from a variety of perspectives.

Clinical psychologists seek to identify the causes of abnormal behavior and to change these behaviors so their clients can live more satisfying and rewarding lives. Cognitive psychologists are interested in how knowledge and behavior are acquired, retained, and retrieved. Developmental psychologists study physical, cognitive, and social changes that occur throughout an individual's life. Neuroscientists are concerned with the biological bases of behavior. Social psychologists investigate Social psychologists study our thoughts and feelings about ourselves and other people. Each of these perspectives is represented by members of the faculty in the Fulbright College Department of Psychological Science.

The Department of Psychological Science is one of the largest and most productive departments in the university in many ways. Our faculty members are active researchers who bring their scientific excitement and curiosity into the classroom. In addition the faculty is deeply committed to providing individualized training to our students, which is accomplished through experience in a faculty member's lab, or perhaps doing an honors project. We are one of the largest undergraduate majors, and our graduates pursue graduate training in many areas, including counseling, psychology, business, law, and medicine. Other graduates enter the workforce in diverse areas, including human and social services, business, banking, and non-profit organizations.

For requirements for advanced degrees in psychology, see the *Graduate School Catalog*.

### Requirements for B.A. Degree with a Major in Psychology

Students must complete 120 degree credit hours to include the minimum University Core requirements (p. 81), the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), and following course requirements for the major. Bolded courses from the list below may be applied to portions of the University Core requirements.

A minimum of 42 semester hours, including:

2003 Intermediate I of any World Language.	<sup>1</sup>	3-6
PHIL 2003	Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)	3

or PHIL 2103	Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)	
Select one of the following. Must complete with a grade of "C" or better:		3-4
MATH 2043	Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)	
MATH 2053	Finite Mathematics (Sp, Su, Fa)	
MATH 2554	Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	
33 semester hours in psychology to include:		
PSYC 2003	General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)	3
PSYC 2013	Introduction to Statistics for Psychologists (Sp, Su, Fa)	3
PSYC 3073	Research Methods (Sp, Fa)	3
Select two of the following:		6
PSYC 3013	Social Psychology (Sp, Fa)	
PSYC 3023	Abnormal Psychology (Sp, Fa)	
PSYC 3093	Developmental Psychology (ACTS Equivalency = PSYC 2103) (Sp, Fa)	
PSYC 4053	Psychological Tests (Irregular)	
PSYC 4063	Psychology of Personality (Irregular)	
Select two of the following:		6
PSYC 3103	Cognitive Psychology (Sp)	
PSYC 4073	Psychology of Learning (Sp)	
PSYC 4123	Perception (Irregular)	
PSYC 4143	History and Systems of Psychology (Irregular)	
PSYC 4183	Behavioral Neuroscience (Fa)	
PSYC 4193	Comparative Psychology (Sp)	
Select three hours from one of the following:		3
PSYC 328V	Advanced Research (Sp, Fa)	
PSYC 4283	Advanced Seminar (Sp, Fa)	
Nine hours of electives and may be chosen from any psychology course in this catalog, with no more than a total of six hours in PSYC 206V, PSYC 207V, and PSYC 399VH combined.		9
A grade of "C" or better is required in all psychology courses used to satisfy the 33 hours of psychology courses. In addition, a 2.00 cumulative grade-point average is required on all work completed in the Department of Psychology.		
Total Hours		42-46

<sup>1</sup> This is usually accomplished through completion of a sequence of two language courses: 1013 and 2003.

Students who want to pursue graduate training in psychology are advised to begin preparations early in their undergraduate careers. Grade-point average, scores on the Graduate Record Examinations, effective communications skills, preparation in the natural sciences and mathematics, and research experience (e.g., honors project, directed readings, laboratory experience) are the major criteria considered by admissions committees. To gain this research experience students are strongly encouraged to take the advanced research course, PSYC 328V.

Students with applied, paraprofessional, or human-service interests who plan to enter the job market with a B.A. in psychology are strongly encouraged to take relevant courses in other areas of interest,

including, but not limited to, anthropology, sociology, social work, human development and family studies, education, and business administration.

Students interested in business applications of psychology (e.g., marketing, management) are similarly encouraged to take related courses in the Sam M. Walton College of Business; minors are also available in several areas of business. For more information concerning psychology as a major or careers in psychology and related fields, please contact the Psychology Advising Coordinator, Memorial Hall, room 203.

**Writing Requirement:** Students majoring in psychology will satisfy the Fulbright College writing requirement by successful completion (a grade of at least a "C") in either PSYC 328V or PSYC 4283, each of which requires a final research paper written in American Psychological Association style.

## Psychology B.A. Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university core requirements of the program. Courses in psychology groups A, B and Capstone courses are listed after the program plan.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
Select one of the following:	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)		
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) <sup>1</sup>		
MATH 2053 Finite Mathematics (Sp, Su, Fa)		
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)		
Select one of the following:	3	
PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)		
University/State Core Social Science Course		
1013 Elementary II World Language Course (or higher level depending on placement)	3	
General Elective	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
Select one of the following MATH (if still needed):		3-4
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) <sup>1</sup>		
MATH 2053 Finite Mathematics (Sp, Su, Fa)		
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)		
General Elective		
PSYC 2013 Introduction to Statistics for Psychologists (Sp, Su, Fa) <sup>1</sup>		3
or PSYC 2003 (if not taken earlier)		
Science University/State Core Lecture with Corequisite Lab requirement		4
2003 Intermediate I World Language Course (as needed)		3

Year Total: 15 16

**Second Year**

	Units	
	Fall	Spring
PSYC Course from Group A <sup>1,2</sup>	3	
Select one of the following:	3	
PSYC 3073 Research Methods (Sp, Fa) <sup>1,2</sup>		
PSYC 2013 Introduction to Statistics for Psychologists (Sp, Su, Fa) ((if not taken earlier)) <sup>1</sup>		
PHIL 2003 Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa) or PHIL 2103 Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)	3	
University/State Core Fine Arts or US History requirement	3	
University/State Core Social Science requirement	3	
Advanced Level Elective <sup>1</sup>		3
Select one of the following:		3
PSYC 3073 Research Methods (Sp, Fa) <sup>1,2</sup>		
University/State Core Social Science requirement		
PSYC from Group A or B <sup>1,2</sup>		3
University/State Core US History or Fine Arts requirement (as needed)		3
General Elective		3
Year Total:	15	15

**Third Year**

	Units	
	Fall	Spring
PSYC Course from Group A or B (as needed) <sup>1,2</sup>	3	
Select one of the following:	3	
PSYC 328V Advanced Research (Sp, Fa) <sup>1,2</sup>		
PSYC 3000-4000-level Elective <sup>1,2</sup>		
Science University/State Core Lecture with Corequisite Lab requirement	4	
General Electives	6	
Select one of the following:		3
PSYC Course from Group A or B (as needed) <sup>1,2</sup>		
PSYC 3000-4000-Level Elective <sup>1,2</sup>		
PSYC 328V Advanced Research (Sp, Fa) & PSYC 4283 Advanced Seminar (Sp, Fa) <sup>1,2</sup>		
Advanced Level Elective <sup>1</sup>		3
General Electives		10
Year Total:	16	16

**Fourth Year**

	Units	
	Fall	Spring
Select one of the following:	3	
PSYC Course from Group A or B <sup>1,2</sup>		
PSYC 328V Advanced Research (Sp, Fa) & PSYC 4283 Advanced Seminar (Sp, Fa) <sup>1,2</sup>		
PSYC Course from Group A or B (if needed) <sup>1,2</sup>	3	
Advanced Level Elective <sup>1</sup>	3	

General Electives	6	
Select one of the following:		3
PSYC 3000-4000 Level Elective <sup>1,2</sup>		
PSYC 328V Advanced Research (Sp, Fa) & PSYC 4283 Advanced Seminar (Sp, Fa) <sup>1,2</sup>		
Select one of the following:		3
PSYC 3000-4000 Level Elective <sup>1,2</sup>		
PSYC 328V Advanced Research (Sp, Fa) & PSYC 4283 Advanced Seminar (Sp, Fa) <sup>1,2</sup>		
3000-4000 Level Elective <sup>1</sup>		3
General Electives		3
Year Total:	15	12

Total Units in Sequence: 120

<sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations (p. 183).

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations (p. 183).

**Group A**

Select two of the following:

PSYC 3013	Social Psychology (Sp, Fa)
PSYC 3023	Abnormal Psychology (Sp, Fa)
PSYC 3093	Developmental Psychology (ACTS Equivalency = PSYC 2103) (Sp, Fa)
PSYC 4063	Psychology of Personality (Irregular)
PSYC 4053	Psychological Tests (Irregular)

**Group B**

Select two of the following:

PSYC 3103	Cognitive Psychology (Sp)
PSYC 4073	Psychology of Learning (Sp)
PSYC 4123	Perception (Irregular)
PSYC 4143	History and Systems of Psychology (Irregular)
PSYC 4183	Behavioral Neuroscience (Fa)
PSYC 4193	Comparative Psychology (Sp)

**PSYC Capstone Courses**

Three hours required with a grade of "C" or higher.

PSYC 328V	Advanced Research (Sp, Fa)
PSYC 4283	Advanced Seminar (Sp, Fa)

**Requirements for a Minor in Psychology**

Minimum of 18 hours in psychology including:

PSYC 2003	General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)	3
PSYC 2013	Introduction to Statistics for Psychologists (Sp, Su, Fa)	3
PSYC 3073	Research Methods (Sp, Fa)	3

A maximum of three hours of PSYC 206V and/or PSYC 207V can be counted toward meeting the minor requirement.

A grade of "C" or better is required in all psychology courses used to satisfy the 18 hours of the minor. In addition, a 2.00 cumulative grade-point average is required on all work completed in the Department of Psychology. Students must consult with, and obtain the signature of, the Director of Undergraduate Studies in the department in order to declare a minor.

**Requirements for Graduation with Honors in Psychology:** Both the College and the Departmental Honors Program in Psychology provide undergraduate students with an opportunity to formally participate in scholarly psychology activities. Honors candidates carry out independent study and research under the guidance of the Psychological Science faculty and participate in special honors classes, seminars, and colloquia. Admission to the Fulbright College Honors Program is open to psychology majors with a minimum, cumulative grade point average of 3.5 in all coursework. Honors candidates must complete a minimum of 12 hours of honors courses, which may include up to 6 hours of thesis. In addition to satisfying the general college honors requirements, honors candidates in psychology are required to complete and orally defend an honors thesis based upon the independent study carried out in PSYC 399VH. To complete the required thesis successfully, students should choose an honors adviser as early as possible. An adviser should be selected, and an Honors Agreement completed, no later than the first semester in a student's junior year. Students must register for, and complete, a minimum of 6 hours of PSYC 399VH. PSYC 399VH may be taken for 1 to 6 hours of credit each semester and repeated for a maximum of 12 hours. Nine hours are ordinarily needed to complete the research project and to prepare the honors thesis.

College honors candidates must meet the college's requirements for an honors degree. Departmental honors candidates in psychology are encouraged to enroll in as many honors classes, seminars, and colloquia as possible, or as required by the honors program in which they are enrolled. Students graduating with honors typically graduate *cum laude*. Higher degree distinctions (*magna cum laude*, *summa cum laude*) are awarded by the Honors Council, recommended only in truly exceptional cases, and are based upon the whole of the candidate's program of honors studies.

#### **Psychology (B.A.) Teacher Licensure in Social Studies Requirements:**

Please refer to the Secondary Education Requirements (p. 186) for Fulbright College Students.

Students wanting to teach social studies in middle school should consult with a middle level adviser in the College of Education and Health Professions.

## **Religious Studies (RLST) Faculty**

**Jacob Adler**, Associate Professor

**Nikolay Atanasov Antov**, Associate Professor

**Lynda L. Coon**, Professor

**JoAnn D'Alisera**, Associate Professor

**Freddy C. Domínguez**, Assistant Professor

**Kirstin C. Erickson**, Associate Professor

**Najib Ghadbian**, Associate Professor

**Jennifer M. Hoyer**, Associate Professor

**Lynn Frances Jacobs**, Distinguished Professor

**Mohja Kahf**, Associate Professor

**Daniel Levine**, University Professor

**Mary Beth Long**, Visiting Assistant Professor

**Elizabeth Jane Markham**, Professor

**Charles E. Muntz**, Assistant Professor

**George Sabo III**, Professor

**Thomas D. Senior**, Professor

**Kim Sexton**, Associate Professor

**Lora Walsh**, Visiting Assistant Professor

**Calvin White Jr.**, Associate Professor

**Rembrandt Wolpert**, Professor

**Steven K. Worden**, Associate Professor

Thomas D. Senior

Director of Religious Studies

318 Old Main

479-575-5827

rlst.uark.edu

**Minor Program Requirements:** Students must complete at least 15 credit hours for the minor. Of those 15 credit hours, only 3 credit hours may be from the introductory courses listed below. The remaining 12 hours must come from upper-level courses (3000-4000) selected from the 3 areas of emphasis listed below. Students must take at least one course in each area of emphasis. A maximum of six credit hours from the student's major may be applied toward the minor. Students may petition the Director of Religious Studies to count toward the minor special topics courses or Honors colloquia not listed below but containing significant religious studies content.

#### **Introductory Courses:**

HUMN 2013	Introduction to Buddhism (Fa) ( )	3
JWST 2003	Introduction to Judaism (Odd years, Fa)	3
MEST 2003	Introduction to Islam (Irregular)	3
MEST 2203	Introduction to Christianity in the Middle East (Fa)	3

#### **Areas of Emphasis:**

##### **History**

ARHS 4843	Medieval Art (Irregular)	3
HIST 3003	History of Christianity (Irregular)	3
HIST 3033	Islamic Civilization (Irregular)	3
HIST 3083	Women and Christianity (Irregular)	3
HIST 3513	History of China to 1644 (Fa)	3
HIST 4043	Late Antiquity and the Early Middle Ages (Even years, Fa)	3
HIST 4053	Late Middle Ages (Odd years, Sp)	3
HIST 4073	Renaissance and Reformation, 1300-1600 (Even years, Fa)	3
HIST 4103	Byzantine Empire (Irregular)	3
HIST 4313	Islamic Theology and Philosophy, 650-1700 (Irregular)	3
HIST 4323	Wars of Religion: From the Crusades to 9/11 (Irregular)	3
HIST 4333	Modern Islamic Thought (Irregular)	3
HIST 4353	Middle East, 600-1250 (Even years, Fa)	3
HIST 4393	Early Modern Islamic Empires, 1300-1750 (Odd years, Sp)	3
HIST 4493	Religion in America to 1860 (Irregular)	3
HIST 4553	The Recluse in Early East Asia (Even years, Fa)	3

##### **Social Sciences**

ANTH 3123	The Anthropology of Religion (Sp)	3
ANTH 3213	Indigenous Peoples of North America: Anthropological Perspectives (Irregular)	3
ANTH 3263	Indians of Arkansas and the South (Odd years, Sp)	3
ANTH 3553	Religion in Latin America (Irregular)	3
ANTH 4093	The Archeology of Death (Irregular)	3
ANTH 4513	African Religions: Gods, Witches, Ancestors (Irregular)	3
PLSC 4593	Islam and Politics (Fa)	3
SOCI 3103	Religion and Society (Irregular)	3
<b>Philosophy/Literature/Languages</b>		
JWST 4003	Modern Jewish Thought (Irregular)	3
JWST 4013	Contemporary Jewish Thought (Odd years, Sp)	3
MEST 3003	Islam: Beliefs and Practices (Sp)	3
MEST 3203	The New Testament in the Holy Land (Sp)	3
PHIL 3203	Philosophy and the Christian Faith (Irregular)	3
PHIL 4013	Platonism and Origin of Christian Theology (Irregular)	3
PHIL 4023	Medieval Philosophy (Irregular)	3
PHIL 4303	Philosophy of Religion (Irregular)	3

**Topics Courses/Seminars/Honors Colloquia:** Students may also choose "topics/seminar" classes or an Honors colloquium in any Department or Program approved by the director as having a religious studies focus.

## Social Work (SCWK)

### Faculty

**Casey Atwood**, Lecturer  
**Lauren M. Biggers**, Lecturer  
**Sarah J. Bryson**, Lecturer  
**Kameri Christy**, Professor  
**Shelley Diane Clingan**, Lecturer  
**Sara J. Collie**, Associate Professor  
**Rita Cruz-Collins**, Lecturer  
**Lauren C. Dallas**, Lecturer  
**Kristen Dunavant**, Lecturer  
**Amanda Dunn**, Lecturer  
**Alishia Juanelle Ferguson**, Clinical Assistant Professor  
**Carly T.S. Franklin**, Clinical Assistant Professor  
**John M. Gallagher**, Assistant Professor  
**Ashley Givens**, Lecturer  
**Glenda J. House**, Clinical Associate Professor  
**Debra Hurd**, Clinical Professor  
**Hanna A.D. Kimbrough**, Lecturer  
**Brian Moore**, Lecturer  
**Yvette Murphy-Erby**, Professor  
**Nickisha T. Nanton**, Instructor  
**Patricia Page**, Lecturer  
**Whitney Payne**, Clinical Assistant Professor  
**Anna North Piazza**, Clinical Assistant Professor  
**Andrea Predl**, Instructor  
**April Rand**, Assistant Professor  
**Ananda Rosa**, Clinical Assistant Professor  
**Adrienne R. Scott**, Lecturer  
**Marcia A. Shobe**, Professor  
**Kimberly M. Shuler**, Instructor  
**Joanna Sites**, Lecturer

**Kari R. Spears**, Lecturer  
**Kim Stauss**, Associate Professor  
**Mary Paige Stephens**, Lecturer  
**Amber Stewart**, Instructor  
**Johanna Thomas**, Assistant Professor  
**Susan Tonymon**, Instructor  
**Valandra**, Assistant Professor

Yvette Murphy-Erby, Director of the School of Social Work  
Sara Collie, Graduate Program Director  
Carly Franklin, Undergraduate Program Director  
Ananda Rosa, Field Education Program Director

106 SCSW  
479-575-5039  
<http://socialwork.uark.edu/>

The School of Social Work offers an undergraduate major leading to a Bachelor of Social Work degree. The principal objective of the undergraduate social work program is to prepare students for beginning generalist social work practice.

Social work is the professional activity of helping individuals, groups, or communities enhance or restore their capacity for social functioning and creating societal conditions favorable to this goal. Social work is a gratifying career for people who care about others, want to relieve human suffering, like a challenge, and want their work to make a difference in the world. The profession is dedicated to assisting individuals, families, groups, organizations, and communities in reaching their full potential.

Social work is particularly concerned with achieving social and economic justice for vulnerable populations and respecting and valuing human diversity. The School of Social Work at the University of Arkansas reflects the profession's fundamental concerns in its educational goals and objectives. In order to achieve its basic purposes, the school faculty, students, staff, and agency field instructors are involved in a variety of teaching, research, and outreach activities.

### Accreditation

The social work program is fully accredited at the baccalaureate and graduate level by the Council on Social Work Education (CSWE).

### Criteria for Admission to B.S.W. Program and Professional Social Work Core

Although a student may declare social work as a major at any point, admission to the B.S.W. Program is required before a student is allowed to take the following courses that comprise the Professional Social Work Core:

SCWK 4073	Social Work Research and Technology I (Sp, Fa)	3
SCWK 4103	Human Behavior and the Social Environment II (Sp, Fa)	3
SCWK 4333	Social Work Practice I (Sp, Fa)	3
SCWK 4343	Social Work Practice II (Sp, Fa)	3
SCWK 4733	Social Work Practice III (Sp, Fa)	3
SCWK 4434	Social Work Internship I (Sp, Su, Fa)	4
SCWK 4412	Field Seminar I (Sp, Su, Fa)	2
SCWK 4444	Social Work Internship II (Sp, Su, Fa)	4
SCWK 4422	Field Seminar II (Sp, Su, Fa)	2

Each student must meet the following minimum academic course requirements and complete the application process outlined below.

## Minimum Academic Course Requirements

Cumulative GPA of 2.0.

Completion of the following 9 courses, each with a grade of “C” or better.

COMM 1313	Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3
ENGL 1013	Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3
PLSC 2003	American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)	3
PSYC 2003	General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)	3
SCWK 2133	Introduction to Social Work (Sp, Su, Fa)	3
SCWK 3193	Human Diversity and Social Work (Sp, Su, Fa)	3
SCWK 4093	Human Behavior and the Social Environment I (Sp, Fa)	3
SCWK 4153	Social Welfare Policy (Sp, Fa)	3
SOCI 2013	General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa)	3

Completion of BIOL 1543/BIOL 1541L Principles of Biology and Lab or ANTH 1013/ANTH 1011L Biological Anthropology and Lab with a grade of “D” or better.

Students must have at least a 2.5 GPA in the ten courses listed above.

## Application Process

The application process must be completed by the announced application deadline prior to the semester in which the student will enroll in Social Work Practice I. The application packet includes the following materials:

**Application Form.** This form becomes the cover sheet for the application packet. Application forms are available from the online B.S.W. Student Handbook (see appendices) or from the social work office.

**Volunteer Experience Form.** This form provides documentation of satisfactory completion of the volunteer experience assignment in Introduction to Social Work or equivalent and submission of a positive “Supervisor’s Reference Form” from the supervisor of the experience.

**Personal Statement.** This narrative statement should include: motivation for becoming a social worker; relevant work, volunteer or life experiences; strengths and limitations for effective social work practice; personal commitment and agreement to abide by the values and ethics of the social work profession; career goals and indication of fields of practice preference or areas where one would not feel comfortable working.

**Ethical Principles/Guidelines for University of Arkansas Social Work Students.** By signing this statement you are acknowledging that you have read, understand and agree to abide by and behave in accordance with the “Ethical Principles/Guidelines for Social Work Students.” This statement is contained in the admissions packet, and is available from the online B.S.W. Student Handbook (see appendices) or from the social work office. A copy of this signed statement will be included in the student’s advising file.

**Two Reference Letters.** The letters of reference will assess the applicant’s academic qualification, motivation and potential for success in the professional social work core. (See Appendices for additional details).

**Copy of current transcript** documenting the minimum academic course requirements listed above.

The above materials are submitted to the B.S.W. Program Director and reviewed by the B.S.W. Admission Committee. If the Admissions Committee has any questions concerning the content of the materials, the student may be asked to interview with a faculty member to resolve any questions or to provide additional information.

Upon completion of the materials review and interview (if necessary), the student will be informed in writing by the B.S.W. Program Director of his or her admission status.

There are three possible admission decisions:

**Unconditional Admission:** These students have demonstrated through their application materials (and interview, if required) that they have the motivation and potential for competent professional social work practice and that they agree to uphold and conduct themselves in accordance with the values and ethics of professional social work practice. In addition, these students have at least a 2.5 GPA in the pre-professional core courses and have an overall GPA of 2.0.

**Conditional Admission:** These students may continue in the major for a given period of time (usually one to two semesters) during which certain conditions must be met. Students may be admitted conditionally with a lower GPA than 2.0 overall, but the student must attain a 2.0 overall GPA during the time period required by the University for being removed from academic probation. Conditional admission related to non-GPA issues may be granted if the student agrees in writing to correct the concern. Examples of non-GPA concerns for which corrective action may be required include writing skills, assertiveness, stress management, or working with diverse populations.

**Non-acceptance:** A decision of non-acceptance will be made when the student is found to be unsuited for professional social work practice. There are two criteria for non-acceptance: 1) the lack of acceptable academic performance necessary to successfully complete the requirements of the social work program, and/or 2) the inability to demonstrate commitment to social work values and ethics as they are reflected in the “Ethical Principles and Guidelines for UA Social Work Students” document that is available on-line in the B.S.W. Student Handbook and included with the forms for applying to the professional social work core (see Appendices). A decision of non-acceptance will result in the student’s inability to progress in the social work program. In the event of non-acceptance, assistance with a transfer to another major will be provided upon request.

## Criteria for Retention and Continuation

In addition to the admission process, the B.S.W. Program also has requirements for retention and continuation in the major.

### Retention

Maintenance of an overall GPA of 2.0.

Maintenance of a 2.5 GPA in social work courses.

Students must abide by and behave in accordance with the “Ethical Principles/Guidelines for UA Social Work Students”.

Social work students should not engage in any activity or behavior which, according to university policy or regulations, would result in dismissal from the university community. Such activity or behavior includes, but is not limited to, sexual harassment, physical or sexual assault, and academic dishonesty. (See Undergraduate Studies Catalog for description of Academic Dishonesty, and Undergraduate Studies Catalog, Appendix C: Student Handbook for details).

## Continuation and Grading Policies.

A grade of C or better must be earned in all social work courses. If a student receives a grade of D or F in one of the professional social work core courses, the course must be retaken with a grade of C or better prior to taking the course for which that course serves as a prerequisite.

1. Once matriculated into the B.S.W. program, B.S.W. students who earn a D or F will be allowed to repeat this course one time. Students can repeat up to two different social work courses.
2. A student may repeat a course from which they earned a W no more than one time.
3. Any professional social work core course in which the student receives a grade of I (Incomplete) must be satisfactorily completed (with a grade of C or better) prior to entering the course for which the course receiving the Incomplete is a prerequisite.

## Criteria for Termination

Students will be terminated from the B.S.W. Program for the following reasons:

1. Failure to maintain minimum GPA requirements (2.0 cumulative overall, 2.5 for all social work courses).
2. Failure to earn a C or better in a professional social work core course after the second attempt.
3. Engaging in any activity or behavior which, according to university policy or regulations, would result in dismissal from the university community. Such activity or behavior includes, but is not limited to, sexual harassment, physical or sexual assault, and academic dishonesty.

Students may be terminated from the B.S.W. Program for the following reasons: Engaging in any activity or behavior incompatible with the "Ethical Principles/Guidelines for UA Social Work Students" (available online in the B.S.W. Student Handbook and with the materials for application to the professional social work core; see Appendices). Such violations will initiate a review by the School of Social Work Student, Standards and Support Committee and may result in termination by the School of Social Work Director or a decision that continuation is contingent upon completion of a corrective action specified by the School of Social Work Director.

## Requirements for a Major in Social Work

In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (<http://catalog.uark.edu/undergraduatecatalog/collegesandschools/jwilliamfulbrightcollegeofartsandsciences>), the following cognate and major course requirements must be met. Bolded courses from the list below may be applied to portions of the university/state minimum core requirements.

BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) 4  
& BIOL 1541L and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)

or ANTH 1013 Introduction to Biological Anthropology (Sp, Su) & ANTH 1011L and Introduction to Biological Anthropology Laboratory (Fa)

COMM 1313	Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3
ENGL 2003	Advanced Composition (Sp, Su, Fa)	3
	or ENGL 2013 Essay Writing (Sp, Su)	
HIST 1113	Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)	3
HIST 1123	Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)	3
PHIL 2003	Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)	3
	or PHIL 2103 Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)	
PLSC 2003	American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)	3
PSYC 2003	General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)	3
SOCI 2013	General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa)	3

One Statistics Course 3

Six hours of 3000- or 4000-level courses from AAST, ANTH, COMM, GEOS, HESC, PLSC, PSYC, SOCI and courses applicable to gender studies as approved by the School of Social Work 6

Six hours of a single world language beginning at the 1013 Elementary II level or higher.<sup>1</sup> 6

And 45 semester hours of social work courses including:

SCWK 2133	Introduction to Social Work (Sp, Su, Fa)	3
SCWK 3193	Human Diversity and Social Work (Sp, Su, Fa)	3
SCWK 4073	Social Work Research and Technology I (Sp, Fa)	3
SCWK 4093	Human Behavior and the Social Environment I (Sp, Fa)	3
SCWK 4103	Human Behavior and the Social Environment II (Sp, Fa)	3
SCWK 4153	Social Welfare Policy (Sp, Fa)	3
SCWK 4333	Social Work Practice I (Sp, Fa)	3
SCWK 4343	Social Work Practice II (Sp, Fa)	3
SCWK 4412	Field Seminar I (Sp, Su, Fa)	2
SCWK 4422	Field Seminar II (Sp, Su, Fa)	2
SCWK 4434	Social Work Internship I (Sp, Su, Fa)	4
SCWK 4444	Social Work Internship II (Sp, Su, Fa)	4
SCWK 4733	Social Work Practice III (Sp, Fa)	3

Two Social Work Electives 6

<sup>1</sup> World language courses at the 1003 Elementary I level cannot be used to satisfy any part of the social work major's six-hour world language requirement.

Students must adhere to requirements cited for each social work course. A grade of "C" or better must be earned in all core social work courses. If a student receives a grade of "D" in a core social work course, the course must be retaken with a grade of "C" or better prior to taking the course for which that course serves as a prerequisite.



**Writing Requirement:** Social work students complete the research/analytical writing requirement by passing SCWK 4073 with a C or better.

## Social Work B.S.W. Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3	
Select one of the following:	3	
PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)		
PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)		
SOC1 2013 General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa)		
University/State Core Fine Arts Course	3	
1013 Elementary II World Language Course (or higher level, depending on placement)	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)	3	
Select one of the following:	4	
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)		
ANTH 1013 Introduction to Biological Anthropology (Sp, Su) & ANTH 1011L Introduction to Biological Anthropology Laboratory (Fa)		
Select one of the following as needed:	3	
PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)		
SOC1 2013 General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa)		
PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)		
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3	
2003 Intermediate I World Language Course (or higher level)	3	
Year Total:	15	16

Second Year	Units	
	Fall	Spring
Select one of the following as needed:	3	

SOCI 2013 General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa)		
PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)		
PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)		
SCWK 2133 Introduction to Social Work (Sp, Su, Fa)	3	
ENGL 2003 Advanced Composition (Sp, Su, Fa) or ENGL 2013 Essay Writing (Sp, Su)	3	
HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)	3	
University/State Core Social Science requirement General Elective	3	3
Science University/State Core Lecture with Corequisite Lab requirement		4
SCWK 3193 Human Diversity and Social Work (Sp, Su, Fa) <sup>1,2</sup>		3
Statistics (SOCI, STAT, etc) (4 Hours if SOCI)		3-4
HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)		3
Year Total:	15	16

Third Year	Units	
	Fall	Spring
SCWK 4093 Human Behavior and the Social Environment I (Sp, Fa) <sup>1,2</sup>	3	
SCWK 4153 Social Welfare Policy (Sp, Fa) <sup>1,2</sup>	3	
SCWK Elective <sup>1,2</sup>	3	
PHIL 2003 Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa) or PHIL 2103 Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)	3	
Upper Level Social Science <sup>1,2,3</sup>	3	
SCWK 4073 Social Work Research and Technology I (Sp, Fa) <sup>1,2</sup>		3
SCWK 4333 Social Work Practice I (Sp, Fa) <sup>1,2</sup>		3
SCWK 4103 Human Behavior and the Social Environment II (Sp, Fa) <sup>1,2</sup>		3
SCWK Elective <sup>1,2</sup>		3
General Elective		3
Year Total:	15	15

Fourth Year	Units	
	Fall	Spring
SCWK 4343 Social Work Practice II (Sp, Fa) <sup>1,2</sup>	3	
SCWK 4733 Social Work Practice III (Sp, Fa) <sup>1,2</sup>	3	
SCWK 4434 Social Work Internship I (Sp, Su, Fa) <sup>1,2</sup>	4	
SCWK 4412 Field Seminar I (Sp, Su, Fa) <sup>1,2</sup>	2	
General Electives	3	
SCWK 4444 Social Work Internship II (Sp, Su, Fa) <sup>2</sup>		4
SCWK 4422 Field Seminar II (Sp, Su, Fa) <sup>2</sup>		2

Upper Level Social Science <sup>1,2,3</sup>	3
General Electives (as needed to total 120 degree credit hours)	3-4
Year Total:	15 13
<hr/>	
Total Units in Sequence:	120

<sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations (p. 183).

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations (p. 183).

<sup>3</sup> 3000-4000 level social science electives to be selected from Sociology, Psychology, Anthropology, Gender Studies, Political Science, Communications, Geosciences, African and African American Studies, or Human Environmental Sciences.

## Requirements for a Minor in Social Work

18 hours including SCWK 2133, SCWK 3193, and SCWK 4153 (required) and any other nine hours of social work electives. A student must notify the department of his or her intent to minor. The social work minor is not preparation for social work practice and is not recognized by the CSWE.

## Requirements for a Minor in Child Advocacy Studies Training

The Child Advocacy Studies Training online minor program is designed to better prepare future child protection workers, law enforcement officers, and other child-serving professionals in child welfare. Students may only receive credit for the minor or the certificate below, but not both.

18 hours are required for the minor:

SCWK 3013	Child Advocacy I: Perspectives on Child Maltreatment and Child Advocacy (Fa)	3
SCWK 4013	Child Advocacy II: Professional and System Responses to Child Maltreatment (Sp)	3
SCWK 4023	Child Advocacy III: Responding to the Survivor of Child Abuse (Su)	3
Choose any three of the following four courses:		9
SCWK 3163	On Death and Dying (Irregular)	
SCWK 3233	Contemporary Issues in Juvenile Justice (Sp, Su, Fa)	
SCWK 4143	Addiction and the Family (Irregular)	
SCWK 4233	Seminar: Children and Family Services (Irregular)	

## Requirements for a Child Advocacy Studies Training Undergraduate Certificate

The Child Advocacy Studies Training online certificate program is designed to better prepare future child protection workers, law enforcement officers, and other child-serving professionals in child welfare. Students may only receive credit for the minor or the certificate, but not both. Admission requirements for the Child Advocacy Studies Training online certificate program:

- Meet the admission requirements for the University of Arkansas.
- Complete 60 semester hours of credit from a regionally accredited institution of higher education.

Course requirements for an undergraduate certificate in Child Advocacy Studies Training (CHAS) include 9 credit hours:

SCWK 3013	Child Advocacy I: Perspectives on Child Maltreatment and Child Advocacy (Fa)	3
SCWK 4013	Child Advocacy II: Professional and System Responses to Child Maltreatment (Sp)	3
SCWK 4023	Child Advocacy III: Responding to the Survivor of Child Abuse (Su)	3

**Requirements for Departmental Honors in Social Work:** The Departmental Honors Program in Social Work is an upper-division course of study with an independent investigation on a topic in social work. Students work closely with an adviser of their choice to define the goals of an honors project and to develop it to completion. They must take 12 hours (which may include 6 hours of thesis) in Honors Studies. In developing the project, students are encouraged to take honors courses, participate in honors colloquia, and do extensive background reading. The honors thesis may entail a library research project, a social work intervention project to be conducted in the field, or a policy analysis project. A research study that requires original data collection and analysis is preferred. In any case, the honors work is a serious long-term undertaking that should have direct value in supplementing the student's regular departmental academic program. Enrollment in SCWK 399VH takes place after the student has done background reading and has actually begun a project. Students normally enroll in this course for three hours of credit. The course may be repeated for an additional 3 hours of credit if the student's project is an extensive one. Regardless of the type of project, it is presented in written form and defended at an oral examination before an Honors Council Committee. Projects of extraordinarily high quality may be designated High Honors by the Committee. Successful completion of the requirements will be recognized by the award of the distinction "Social Work Scholar *Cum Laude*" at graduation. Higher degree distinctions are recommended only in truly exceptional cases and are based upon the whole of the candidate's program of honors studies.

## Sociology (SOC)

### Faculty

**Douglas James Adams**, Associate Professor  
**Anthony Justin Barnum**, Instructor  
**Juan Jose Bustamante**, Assistant Professor  
**Lauren Copley**, Visiting Assistant Professor  
**Grant R. Drawve**, Assistant Professor  
**Mindy Sue Engen**, Professor  
**Rodney L. Engen**, Associate Professor  
**Kevin M. Fitzpatrick**, University Professor, Bernice Jones Chair of Community and Family Institute  
**Casey Taggart Harris**, Associate Professor  
**Patricia S. Herzog**, Assistant Professor  
**Lori C. Holyfield**, Professor  
**Brandon Jackson**, Assistant Professor  
**Patricia Koski**, Associate Professor  
**Shauna Morimoto**, Associate Professor  
**Bill Schwab**, University Professor  
**Christopher A. Shields**, Assistant Professor  
**Brent Lamar Smith**, Distinguished Professor  
**Shaun A. Thomas**, Associate Professor  
**Marcella Thompson**, Instructor  
**Steven K. Worden**, Associate Professor  
**Song Yang**, Professor

**Anna Zajicek, Professor**

Anna Zajicek  
 Department Chair  
 211 Old Main  
 479-575-5149  
[fulbright.uark.edu/departments/sociology/index.php](http://fulbright.uark.edu/departments/sociology/index.php)

The Department of Sociology offers two majors:

- Criminal Justice (p. 236) (B.A.)
- Sociology (B.A.), listed below

A Bachelor of Arts (B.A.) degree in sociology is useful preparation not only for graduate work in sociology, but also for pre-professional training in other fields, such as medicine, law, human services, or related work in the government.

See here for a combined major in Sociology and African and African American studies (p. 198).

See here for a major in criminal justice (p. 236).

See here for a major in social work (p. 348).

For requirements for an M.A. degree in sociology, see the Graduate School Catalog (<http://catalog.uark.edu/graduatecatalog/programsofstudy/sociologyandcriminaljusticedepartmentofsoci>).

**Requirements for B.A. Degree with a Major in Sociology:** In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the University/state minimum core requirements.

Select one of the following:	3-4
<b>MATH 2033</b> Mathematical Thought (Sp, Su, Fa)	
<b>MATH 2043</b> Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)	
<b>MATH 2053</b> Finite Mathematics (Sp, Su, Fa)	
<b>MATH 2183</b> Mathematical Reasoning in a Quantitative World (Sp, Fa)	
<b>MATH 2554</b> Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	
ENGL 2003 Advanced Composition (Sp, Su, Fa) (see course description for exemption requirements)	0-3
Completion of a world language course at the 1013 Elementary II level or higher.	3
31 semester hours in SOCI courses, to include:	31
<b>SOCI 2013</b> General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa)	
<b>SOCI 3193</b> Race, Class, and Gender in America (Sp, Fa)	
<b>SOCI 3223</b> Social Psychology (Sp, Fa)	
<b>SOCI 3301L</b> Social Data and Analysis Laboratory (Sp, Fa)	
<b>SOCI 3303</b> Social Data and Analysis (Sp, Fa)	
<b>SOCI 3313</b> Social Research (Sp, Fa)	
<b>SOCI 3423</b> Social Theory (Sp, Fa)	
<b>SOCI 4043</b> Seminar in Sociology (Sp, Fa)	
<b>9 hours from sociology 3000- and 4000-level electives</b>	
Total Hours	37-41

**Writing Requirement:** To fulfill the Fulbright College writing requirement, each sociology major will submit, prior to graduation, a substantial research or analytical paper, with a grade of "A" or "B" from an upper-division sociology course (3000-, 4000-, or 5000-level) to their departmental adviser. Satisfactory completion of an honors project or a senior thesis may fulfill this requirement.

## Sociology B.A. Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
Select one of the following:	3-4	
<b>MATH 1203</b> College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)		
<b>MATH 2033</b> Mathematical Thought (Sp, Su, Fa) <sup>1</sup>		
<b>MATH 2043</b> Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) <sup>1</sup>		
<b>MATH 2053</b> Finite Mathematics (Sp, Su, Fa) <sup>1</sup>		
<b>MATH 2183</b> Mathematical Reasoning in a Quantitative World (Sp, Fa) <sup>1</sup>		
<b>MATH 2554</b> Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) <sup>1</sup>		
<b>SOCI 2013</b> General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa) (or University/state core social science course)	3	
1013 Elementary II World Language Course (or higher level, depending on placement)	3	
University/State Core Fine Arts, Humanities or US History requirement	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
Select one of the following Math if still needed, else General Elective:		3-4
<b>MATH 2033</b> Mathematical Thought (Sp, Su, Fa)		
<b>MATH 2043</b> Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) <sup>1</sup>		
<b>MATH 2053</b> Finite Mathematics (Sp, Su, Fa) <sup>1</sup>		
<b>MATH 2183</b> Mathematical Reasoning in a Quantitative World (Sp, Fa) <sup>1</sup>		
<b>MATH 2554</b> Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) <sup>1</sup>		
General Elective		
Select one of the following:		3
<b>SOCI 2013</b> General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa) (if still needed)		
University/State Core Social Science Course		

Science University/State Core Lecture with Corequisite Lab requirement	4	
General Elective	3	
Year Total:	15	16

Second Year	Units	
	Fall	Spring
ENGL 2003 Advanced Composition (Sp, Su, Fa) (as needed)	3	
University/State Core Social Science requirement (as needed)	3	
University State Core Humanities, U.S. History or Fine Arts requirement (as needed)	3	
General Electives	6	
Advanced Level Elective <sup>1</sup>		3
SOCI 3313 Social Research (Sp, Fa) <sup>1,2</sup>		3
Science University/State Core Lecture with Corequisite Lab requirement		4
University State Core U.S. History, Fine Arts, or Humanities requirement (as needed)		3
General Elective		3
Year Total:	15	16

Third Year	Units	
	Fall	Spring
SOCI 3193 Race, Class, and Gender in America (Sp, Fa) <sup>2</sup>	3	
SOCI 3223 Social Psychology (Sp, Fa) <sup>2</sup>	3	
General Electives	9	
SOCI 3303 Social Data and Analysis (Sp, Fa) & SOCI 3301L Social Data and Analysis Laboratory (Sp, Fa) <sup>1,2</sup>		4
SOCI 3423 Social Theory (Sp, Fa) <sup>1,2</sup>		3
SOCI Upper Level Elective <sup>1,2</sup>		3
General Electives		6
Year Total:	15	16

Fourth Year	Units	
	Fall	Spring
SOCI Upper Level Electives <sup>1,2</sup>	6	
General Electives	6	
Advanced Level Elective <sup>1</sup>	3	
SOCI 4043 Seminar in Sociology (Sp, Fa) <sup>2</sup>		3
3000+ Advanced Level Elective (if needed) or Advanced Level Elective <sup>1</sup>		3
Advanced Level Elective <sup>1</sup>		3
General Electives		3
Year Total:	15	12

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Total Units in Sequence: 120

<sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations (p. 183).

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations (p. 183).

**Requirements for a Minor in Sociology:** 18 semester hours in sociology to include SOCI 2013, SOCI 3313, SOCI 3423 and at least nine hours of 3000-level classes or above, of which no more than three hours can come from CMJS. A student must notify the department of her or his intent to minor.

**Requirements for Departmental Honors in Sociology:** The Departmental Honors Program in Sociology is an upper-division course of study based on independent investigation on a scholarly topic of sociological interest. To be eligible for sociology honors candidacy, students normally will have completed 28 semester hours and not more than 85 semester hours with a minimum cumulative grade-point average of 3.5. They must take 12 hours in Honors Studies, which may include 6 hours of thesis. In the junior year, three hours of directed reading, planning, or other work on a research problem should be selected from the following courses:

SOCI 399VH	Honors Course (Sp, Fa)	1-6
SOCI 403V	Individual Study in Sociology (Sp, Su, Fa)	1-3
SOCI 4043	Seminar in Sociology (Sp, Fa)	3

In the senior year, the student will complete an honors project for up to six hours of credit in SOCI 399VH Honors Course. This honors research project will normally consist of an empirical investigation but may, with the approval of the honors director and the other departmental representatives, be intensive library research on a topic. All candidates must pass an oral examination given by an Honors Council Committee. Successful completion of the requirements will be recognized by the award of the distinction "Sociology Scholar Cum Laude" at graduation. Higher degree distinctions are recommended only in truly exceptional cases and are based upon the whole of the candidate's program of honors studies.

#### **Sociology (B.A.) Teacher Licensure in Social Studies Requirements:**

Please refer to the Secondary Education Requirements (p. 186) for Fulbright College Students.

Students wanting to teach social studies in middle school should consult with a middle level adviser in the College of Education and Health Professions.

## **Southern Studies (SOST)**

Angie Maxwell  
Director of Southern Studies  
Old Main 506A  
479-575-6007  
amax@uark.edu

The Southern Studies minor is designed to provide students with a thorough, interdisciplinary grounding in the major themes, issues, and theoretical assumptions concerning southern history, literature, and politics. Students who secure a southern studies minor will be prepared to pursue careers in business, education, law, and in post-graduate work in history, literature, or political science, particularly as it relates to the Southern region of the United States.

**Requirements for a Minor in Southern Studies:** Students wishing to minor in Southern Studies must take SOST 2003 Introduction to Southern

Studies (Odd years, Fa), a 3-credit hour interdisciplinary course that explores the history, politics, literature, and culture of the U.S. South from the colonial era to the present. Students must also take an additional 15 elective credit hours (5 courses) from among numerous options listed below. Only 6 hours can count toward the requirements of another major or minor.

**Select five courses:**

15

AAST 3233	African American History to 1877 (Sp, Fa) or HIST 323: African American History to 1877 (Sp, Fa)
AAST 3243	African American History Since 1877 (Sp, Fa) or HIST 324: African American History Since 1877 (Sp, Fa)
AAST 4093	The History of African Americans and Social Justice (Irregular) or HIST 409: The History of African Americans and Social Justice (Irregular)
AAST 3293	African American Politics (Irregular) or PLSC 329: African American Politics (Fa)
AAST 4383	The American Civil Rights Movement (Irregular) or HIST 438: The American Civil Rights Movement (Irregular)
AAST 4933	African American Political Ideology (Odd years, Fa) or PLSC 493: African American Political Ideology (Odd years, Sp)
ENGL 3113	Folklore (Irregular)
ENGL 3853	Topics in African-American Literature and Culture (Irregular)
ENGL 3863	Topics in Literature and Culture of the American South (Irregular)
HIST 4503	History of Political Parties in the United States, 1789-1896 (Even years, Fa)
HIST 4563	The Old South, 1607-1865 (Odd years, Fa)
HIST 4573	The New South, 1860 to the Present (Even years, Fa)
HIST 4583	Arkansas in the Nation (Sp) <sup>*</sup> or HIST 338: Arkansas and the Southwest (Sp, Fa)
HIST 4593	The Colonial French in the Mississippi Valley (Sp) or WLLC 405: The Colonial French in the Mississippi Valley (Sp)
HIST 4653	Antebellum America, 1828-1850 (Irregular)
HIST 4663	Rebellion to Reconstruction, 1850-1877 (Irregular)
HIST 4673	The American Civil War (Fa)
PLSC 3213	The South and the Law: Race, Gender, and Citizenship (Fa)
PLSC 3223	Arkansas Politics and the Nation (Sp) <sup>1</sup>
PLSC 4333	Southern Politics (Sp)
SOCI 3173	Latinos, Migration, and the U.S. South (Fa)
SOST 399V	Special Topics in Southern Studies (Irregular) <sup>2</sup>

Total Hours

15

<sup>1</sup> A maximum of 6 hours can be taken in Arkansas-specific courses.

<sup>2</sup> A maximum of 6 hours of SOST 399V Special Topics in Southern Studies (Irregular) may be taken.

## Statistics (STAT)

Giovanni Petris

Director of Statistics

314 Science-Engineering Building

## Requirements for a Minor in Statistics

MATH 2554 and 12 hours of non-cross-listed courses in the statistics section of this catalog, including 9 hours in courses numbered 3000 and above. Coursework used towards the mathematics major may not be applied towards a statistics minor.

## Theatre (THTR)

### Faculty

**Jason E. Burrow**, Assistant Professor

**Ashley Cohea**, Instructor

**Susan Crabtree**, Instructor

**Mavourneen Dwyer**, Associate Professor

**Kate L. Frank**, Lecturer

**Amy Herzberg**, Distinguished Professor

**Morgan Hicks**, Assistant Professor

**Shawn D. Irish**, Assistant Professor

**Michael Landman**, Associate Professor

**Valerie Jean Lane**, Instructor

**Jeannie A. Lee**, Lecturer

**Gail Leftwich**, Lecturer

**Patricia Martin**, Professor

**Steven Marzolf**, Lecturer

**Jennifer Ann McKnight**, Instructor

**Matthew Thomas Meers**, Instructor

**Tyler J. Michael**, Instructor

**Tyler Micheel**, Instructor

**Joseph D. Millett**, Visiting Assistant Professor

**Michael Riha**, Professor

**Les Wade**, Professor

**John S. Walch**, Assistant Professor

**Weston Wilkerson**, Assistant Professor

Michael Riha

Chair of the Department

619 Kimpel Hall

479-575-2953

Department of Theatre website (<http://fulbright.uark.edu/departments/theatre>)

The Department of Theatre offers the Bachelor of Arts (B.A.) degree in Theatre, a broad spectrum program in the context of a liberal arts education, and the Master of Fine Arts (M.F.A.) degree in six concentrations: Acting, Directing, Playwriting, Costume Design, Scene Design and Lighting Design. (Please see the Graduate Catalog for information regarding the M.F.A. Theatre degree (<http://catalog.uark.edu/graduatecatalog/programsofstudy/theatretthr>.) Classes at both undergraduate and graduate levels are focused on providing a strong, professional orientation to theatre performance and technology in conjunction with appropriate research-based course work to address the required foundations in theatre history, dramatic literature and dramatic criticism.

The educational objectives of the Department of Theatre are centered on producing graduates prepared to enter the competitive world of professional play production as well as a variety of teaching and research fields. In addition a background in Theatre has proven to be a valuable asset to those wishing to pursue a wide range of corporate and industrial occupations.

The play production program is the "laboratory" for study in Theatre. To that end the department produces an average of 10 plays each year

involving students in virtually all aspects of production. Auditions are open to all students on campus.

The Department of Theatre also supports course work in Dance, offering a variety of basic and advanced studio courses.

For requirements for the M.F.A. degrees in theatre, see the *Graduate School Catalog*.

**Requirements for a Major in Theatre:** In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the university/state minimum core requirements.

Three hours of any world language at the 1013 Elementary II level; and three hours of continued coursework in the same world language, or 3 hours of a different world language course.

**A University Core fine arts course other than THTR 1003 Theatre Appreciation**

Select one course from two of the following categories. These two courses must be completed in addition to coursework used to satisfy the University/state core.

HIST 1113	Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)	3
or HIST 112	Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)	3
WLIT 1113	World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)	3
or WLIT 1123	World Literature II (ACTS Equivalency = ENGL 2123) (Sp, Su, Fa)	3
PHIL 2003	Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)	3
or PHIL 210	Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)	3
Total Hours		15

**All theatre majors must complete the following 31 hours:**

THTR 1223	Introduction to Theatre (Fa) <sup>1</sup>	3
THTR 1313 & THTR 1311L	Stage Technology I: Costumes and Makeup (Sp, Fa) and Stage Technology I Laboratory: Costume and Makeup (Sp, Fa)	4
THTR 1323 & THTR 1321L	Stage Technology II: Scenery and Lighting (Sp, Fa) and Stage Technology II Laboratory: Scenery and Lighting (Sp, Fa)	4
THTR 1423	Script Analysis (Sp)	3
THTR 1883	Acting I for Theatre Majors (Sp)	3
THTR 2313	Fundamentals of Theatrical Design (Fa)	3
THTR 3001	Production Practicum (Sp, Fa) (to be taken twice)	2
THTR 3683	Stage Management (Sp)	3
THTR 4233	History of the Theatre I (Fa) <sup>2</sup>	3
THTR 4333	History of the Theatre II (Sp) <sup>2</sup>	3

In addition, all theatre majors must complete 21 hours from one of two concentration areas of study: Design and Technology or Performance.

<sup>1</sup> Students who have already taken THTR 1003 or THTR 1003H may substitute this course for THTR 1223 and must also complete one additional University Core (p. 81) fine arts course.

Theatre majors may not receive credit for both THTR 1223 and THTR 1003/THTR 1003H.

<sup>2</sup> Fulfills Fulbright College writing requirement.

**Writing Requirement:** The Fulbright College research/analytical paper requirement for theatre majors will be fulfilled in THTR 4233, THTR 4333, THTR 4453, or THTR 4733. Satisfactory completion of an honors project or senior thesis may fulfill the requirement.

**Senior Progress Review:** All theatre majors are required, in the semester before graduation, to successfully complete the Senior Progress Review, a faculty assessment of each student's accomplishments in performance and production.

## Requirements for Design and Technology Concentration

THTR 2513	Drafting for the Theatre (Even years, Fa)	3
THTR 3213	Costume Design (Even years, Fa)	3
THTR 3733	Lighting Design (Odd years, Sp)	3
THTR 3903	Theatrical Makeup (Odd years, Sp)	3
THTR 4123	Rendering for the Theatre (Even years, Sp)	3
THTR 4653	Scene Design (Odd years, Fa)	3
THTR 4833	Scene Painting (Odd years, Sp)	3

**Requirements for a Major in Theatre:** In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following course requirements must be met. Bolded courses from the list below may be applied to portions of the university/state minimum core requirements.

Three hours of any world language at the 1013 Elementary II level; and three hours of continued coursework in the same world language, or 3 hours of a different world language course.

**A University Core fine arts course other than THTR 1003 Theatre Appreciation**

Select one course from two of the following categories. These two courses must be completed in addition to coursework used to satisfy the University/state core.

HIST 1113	Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)	3
or HIST 112	Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)	3
WLIT 1113	World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)	3
or WLIT 1123	World Literature II (ACTS Equivalency = ENGL 2123) (Sp, Su, Fa)	3
PHIL 2003	Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)	3
or PHIL 210	Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)	3
Total Hours		15

**All theatre majors must complete the following 31 hours:**

THTR 1223	Introduction to Theatre (Fa) <sup>1</sup>	3
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THTR 1313 & THTR 1311L	Stage Technology I: Costumes and Makeup (Sp, Fa) and Stage Technology I Laboratory: Costume and Makeup (Sp, Fa)	4
THTR 1323 & THTR 1321L	Stage Technology II: Scenery and Lighting (Sp, Fa) and Stage Technology II Laboratory: Scenery and Lighting (Sp, Fa)	4
THTR 1423	Script Analysis (Sp)	3
THTR 1883	Acting I for Theatre Majors (Sp)	3
THTR 2313	Fundamentals of Theatrical Design (Fa)	3
THTR 3001	Production Practicum (Sp, Fa) (to be taken twice)	2
THTR 3683	Stage Management (Sp)	3
THTR 4233	History of the Theatre I (Fa) <sup>2</sup>	3
THTR 4333	History of the Theatre II (Sp) <sup>2</sup>	3
In addition, all theatre majors must complete	21 hours from one of two concentration areas of study: Design and Technology or Performance.	21

<sup>1</sup> Students who have already taken THTR 1003 or THTR 1003H may substitute this course for THTR 1223 and must also complete one additional University Core (p. 81) fine arts course. Theatre majors may not receive credit for both THTR 1223 and THTR 1003/THTR 1003H.

<sup>2</sup> Fulfills Fulbright College writing requirement.

**Writing Requirement:** The Fulbright College research/analytical paper requirement for theatre majors will be fulfilled in THTR 4233, THTR 4333, THTR 4453, or THTR 4733. Satisfactory completion of an honors project or senior thesis may fulfill the requirement.

**Senior Progress Review:** All theatre majors are required, in the semester before graduation, to successfully complete the Senior Progress Review, a faculty assessment of each student's accomplishments in performance and production.

## Requirements for a Concentration in Performance

THTR 2483	Stage Movement for the Actor (Fa)	3
THTR 2683	Acting II (Sp, Fa)	3
THTR 3433	Stage Speech (Sp, Fa)	3
THTR 3653	Directing I (Sp, Fa)	3
THTR 3663	Acting III (Sp)	3
THTR 4063	Playwriting (Sp)	3
THTR 4683	Acting IV - Shakespeare Performance (Fa)	3

**Requirements for a Minor in Theatre:** A minimum of 18 semester hours in theatre, including THTR 1223 or THTR 1003 or THTR 1003H. One of the following courses or course/lab combinations is also required: THTR 1313 and THTR 1311L, or THTR 1323 and THTR 1321L, or THTR 1683. The remaining hours must be selected from courses at the 3000- or 4000-level, the specific courses to be determined by the student in consultation with a theatre department faculty adviser. The student must notify the department of his or her intent to minor.

**Requirements for Graduation with Honors in Theatre:** Both the College and the Departmental Honors Program in Theatre provide undergraduate students with an opportunity to participate formally in creative and/or scholarly activities. Honors candidates carry out independent study and research under the guidance of the Theatre

faculty and participate in special honors classes, seminars and colloquia. Admission to the Fulbright Honors Program is open to Theatre majors with a minimum cumulative grade point average of 3.5 in all of their coursework. Honors candidates must complete a minimum of 12 hours of honors courses, three of which will be THTR 399VH Honors Thesis (Sp, Su, Fa). (THTR 399VH may be repeated for up to six of these 12 hours.) To successfully complete the required thesis, students should choose an honors thesis adviser as early as possible. An adviser should be selected, and an Honors Agreement completed, no later than the first semester in a student's junior year.

Honors candidates must meet the college's requirements for an honors degree. Students graduating with honors will typically be recognized with the distinction "Theatre Scholar Cum Laude." Higher degree distinctions (*magna cum laude* and *summa cum laude*) are awarded by the Honors Council, are recommended only in truly exceptional cases, and are based upon the whole of the candidate's program of honors studies.

### Theatre (B.A.) Theatre/Speech Teacher Licensure Requirements:

Please refer to the Secondary Education Requirements (p. 186) for Fulbright College Students.

## World Languages, Literatures, and Cultures (WLLC)

### Faculty

Erika Almenara, Assistant Professor  
 Betina Arellano, Instructor  
 Nancy M. Arenberg, Associate Professor  
 Steven M. Bell, Associate Professor  
 Hilda Morayma Benton, Instructor  
 Nadezda Berkovich, Clinical Assistant Professor  
 Paisley L. Boston, Instructor  
 Gina Marie Breen, Instructor  
 Edvan P. Brito, Assistant Professor  
 Greg N. Buchanan, Instructor  
 Nancy H. Buckley, Instructor  
 Ryan C. Calabretta-Sajder, Visiting Assistant Professor  
 Raquel Castro Salas, Instructor  
 Hope L. Christiansen, Associate Professor  
 Nicole Clowney, Lecturer  
 Kathy Comfort, Associate Professor  
 Kathleen Condray, Associate Professor  
 Joe Covey, Instructor  
 Claudia Maria Devich, Instructor  
 David Charles Fredrick, Associate Professor  
 Tatsuya Fukushima, Associate Professor  
 Regina Claire Glover, Instructor  
 Adnan Fuad Haydar, Professor  
 Michael Hernandez-Miranda, Instructor  
 Heather Rae Hinds, Instructor  
 Jennifer M. Hoyer, Associate Professor  
 David M. Irungu, Instructor  
 Linda Carol Jones, Associate Professor  
 Daniel Levine, University Professor  
 Violeta Lorenzo, Assistant Professor  
 Brenda Monica Magnetti, Instructor  
 Matthew F. McNicoll, Instructor  
 Douglas James Miller, Instructor  
 Martha Montejo Pizarro, Instructor  
 Mafumi Omura, Instructor

**Joy Elisabeth Reeber**, Instructor  
**Luis Fernando Restrepo**, University Professor  
**Louise L. Rozier**, Associate Professor  
**M. Reina Ruiz**, Associate Professor  
**Brett E. Sterling**, Assistant Professor  
**Rachel E. ten Haaf**, Assistant Professor  
**Nelson Augusto Torres Mesa**, Instructor  
**Alberto Veiga**, Clinical Assistant Professor  
**Rhodora Vennarucci**, Assistant Professor  
**Gilles André Fernand Viennot**, Assistant Professor  
**Jenny Xu**, Clinical Associate Professor  
**Li Yang**, Instructor  
**Yun Yao**, Assistant Professor

Steven M. Bell  
 Chair of Department  
 425 Kimpel Hall  
 479-575-2951

World Languages, Literatures and Cultures website (<http://fulbright.uark.edu/departments/world-languages>)

The world languages requirement among the basic courses is satisfied based on each separate department's undergraduate degree program. Students should consult their adviser to confirm the total number of courses needed to satisfy their departmental world language requirement. Students who, on the basis of prior knowledge of language, omit one or more courses in the basic language sequence (1003-2013) may receive college credit for omitted courses if they validate their higher placement by passing an advanced course with a grade of "C" or above.

Conversation courses (3033, 4033) and self-paced (correspondence) courses may not be used to validate such prior knowledge.

For majors in Greek and Latin, go to Classical Studies (p. 231).

For information on advanced degrees in world languages, go to the *Graduate School Catalog*.

## French

**Requirements for a Major in French:** In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following departmental and major course requirements must be met. Bolded courses from the list below may be applied to portions of the University/state minimum core requirements.

Six hours of language-related courses to be fulfilled by completing six hours of a single world language different than the major, or six hours from any combination of language-related area/ethnic studies courses, department-approved WLLC courses (such as WLLC 2413, WLLC 3173, WLLC 4023, WLLC 4033), or classical studies (CLST) courses.

Humanities to be fulfilled by: <sup>1</sup>

PHIL 2003	Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)	3
or WLIT 1113	World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)	

World Civilization (Social Sciences) to be fulfilled by: <sup>1,2</sup>

HIST 1113	Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)	3
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HIST 1123	Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)	3
24 hours in French in courses numbered 3000 or above with a minimum grade of "C" in each course. Specific courses required are:		
FREN 3003	Advanced French (Sp, Su, Fa)	3
FREN 3113	Introduction to Literature (Sp)	3
FREN 4003	French Grammar and Composition (Fa)	3
FREN 4033	French for Oral Proficiency (Sp)	3
FREN 4213	French Civilization (Sp)	3
two French literature courses at the 4000-level		6
FREN 3000 or above elective		3
<b>Total Hours</b>		<b>39</b>

- <sup>1</sup> Honors students who complete the HUMN 1114H, HUMN 1124H, HUMN 2114H, HUMN 2124H (H2P) sequence will have fulfilled the World Civilization HIST 1113 and HIST 1123 requirement for this major as well as the major's 3-hour Humanities requirement.
- <sup>2</sup> This fulfills 6 hours of social science university/state core; the remaining 3 hours in the social science core must be fulfilled by a non-HIST social science university/state core course.

**Writing Requirement:** The college writing requirement may be satisfied by a term paper or other written work submitted for an upper-division world language literature class approved by the chair of the department.

## French B.A. Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program. The following eight-semester plan refers to both University Core and additional departmental requirements as presented above. Hours may vary by individual, based on placement and previous credit granted. Once all core and departmental requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
Select one of the following:	3-4	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (if required)		6
MATH 2033 Mathematical Thought (Sp, Su, Fa)		
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)		
MATH 2053 Finite Mathematics (Sp, Su, Fa)		
MATH 2183 Mathematical Reasoning in a Quantitative World (Sp, Fa)		
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)		
FREN 1013 Elementary French II (ACTS Equivalency = FREN 1023) (Sp, Fa) (depending on placement in sequence)		3
or FREN 2003 Intermediate French I (ACTS Equivalency = FREN 2013) (Sp, Fa)		
U.S. History University/State Core Requirement		3



non-HIST Social Science university/state core requirement	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)	3	
FREN 2003 Intermediate French I (ACTS Equivalency = FREN 2013) (Sp, Fa) (depending on placement in sequence) or FREN 2013 Intermediate French II (ACTS Equivalency = FREN 2023) (Sp, Fa)	3	
An additional world language or WLLC 2413, WLLC 3173 or WLLC 4023 or an area studies course approved by adviser	3	
PHIL 2003 Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa) or WLIT 1113 World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)	3	
Science University/State Core Lecture with Corequisite Lab Requirement	4	
Year Total:	15	16

**Second Year**

	Units	
	Fall	Spring
FREN 2013 Intermediate French II (ACTS Equivalency = FREN 2023) (Sp, Fa) (depending on placement in sequence) or FREN 3003 Advanced French (Sp, Su, Fa)	3	
HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)	3	
Science University/State Core Lecture with Corequisite Lab Requirement	4	
General Elective	6	
FREN 3003 Advanced French (Sp, Su, Fa) (if needed, or FREN 3113 (as needed) or 3000-level Advanced level elective) <sup>1,2</sup>		3
Advanced Level Elective <sup>1</sup>		3
HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)		3
General Electives		6
Year Total:	16	15

**Third Year**

	Units	
	Fall	Spring
FREN 4003 French Grammar and Composition (Fa) (or 3000+I FREN class) <sup>1,2</sup>	3	
4000+ FREN Literature Course (if Prereq FREN 3113 is met) or 3000+ FREN Elective <sup>1,2</sup>	3	
Fine Arts University/State Core Requirement	3	
Select one of the following:	3	
Additional World Language Course		
WLLC 2413 Migrant Experiences in Multicultural Europe (Irregular)		
WLLC 3173 Introduction to Linguistics (Irregular)		

WLLC 4023 Languages, Cultures, and Teaching with Technology (Irregular)		
Area Studies Course as approved by adviser		
Advanced Level Elective <sup>1</sup>	3	
FREN 3113 Introduction to Literature (Sp) (as needed, or 4000+ FREN literature course (if prereq FREN 3113 is met, or FREN 3000+ elective) <sup>1,2</sup>		3
FREN 4033 French for Oral Proficiency (Sp) <sup>1,2</sup> or FREN 4213 French Civilization (Sp)		3
Advanced Level Elective		3
General Elective		3
Advanced or General Elective (as needed)		3
Year Total:	15	15

**Fourth Year**

	Units	
	Fall	Spring
4000+ FREN literature course (as needed) or 3000+ FREN elective <sup>1,2</sup>	3	
3000+ FREN elective (Recommended) or 3000+ Advanced Level Elective <sup>1,2</sup>	3	
3000-plus Level Elective <sup>1</sup>	3	
General Electives	6	
FREN 4213 French Civilization (Sp) (as needed) <sup>1,2</sup> or FREN 4033 French for Oral Proficiency (Sp)		3
4000+ FREN literature course or FREN 3000+ elective (as needed) <sup>1,2</sup>		3
3000-plus Level Elective (Recommended) or General Elective <sup>1</sup>		3
Advanced Level Electives (as needed to meet 40-hr rule) <sup>1</sup>		3
General Electives (as needed to total 120 degree credits)		1
Year Total:	15	13
Total Units in Sequence:		120

<sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations (p. 183).

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations (p. 183).

**German**

Requirements for a Major in German: In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183) (see under College Academic Regulations and Degree Completion Program Policy), the following departmental and major course requirements must be met. Bolded courses from the list below may be applied to portions of the University/state minimum core requirements.

Six hours of language-related courses to be fulfilled by completing six hours of a single world language different than the major, or six hours from any combination of language-related area/ethnic studies courses, department-approved WLLC courses (such as WLLC 2413, WLLC 3173, WLLC 4023, WLLC 4033), or classical studies (CLST) courses. 6

Humanities to be fulfilled by: <sup>1</sup>		
PHIL 2003	Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)	3
or WLIT 1113	World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)	
World Civilization (Social Sciences) to be fulfilled by: <sup>1,2</sup>		
HIST 1113	Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)	3
HIST 1123	Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)	3
24 hours in German in courses numbered 3000 or above with a minimum grade of "C" in each course. Specific courses required are:		
GERM 3003	Advanced German I (Fa)	3
GERM 3013	Introduction to Literature (Fa)	3
GERM 4003	Advanced German II (Sp)	3
GERM 4213	German Civilization (Irregular)	3
GERM 3033	Conversation (Sp)	3
German 3000-level or higher electives		9
Total Hours		39

<sup>1</sup> Honors students who complete the HUMN 1114H, HUMN 1124H, HUMN 2114H, HUMN 2124H (H2P) sequence will have fulfilled the World Civilization HIST 1113 and HIST 1123 requirement for this major as well as the major's 3-hour Humanities requirement.

<sup>2</sup> This fulfills 6 hours of social science university/state core; the remaining 3 hours in the social science core must be fulfilled by a non-HIST social sci-ence university/state core course.

GERM 5000-level classes such as GERM 5223 (Early German Literature), GERM 5273 (Enlightenment through Classicism), and GERM 5363 (Literature after 1945) may be taken by undergraduates with exceptional language skills after approval by the undergraduate adviser and a petition to the graduate school.

**Writing Requirement:** The college writing requirement may be satisfied by a term paper or other written work submitted for an upper-division world language literature class approved by the chair of the department.

## German B.A. Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program. The following eight-semester plan refers to both University and major requirements as presented above. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
Select one of the following:	3-4	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (if required)		
MATH 2033 Mathematical Thought (Sp, Su, Fa)		

MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)		
MATH 2053 Finite Mathematics (Sp, Su, Fa)		
MATH 2183 Mathematical Reasoning in a Quantitative World (Sp, Fa)		
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)		
GERM 1013 Elementary German II (ACTS Equivalency = GERM 1023) (Sp, Su, Fa) (or higher-level GERM course, depending on placement in sequence)	3	
U.S. History University/State Core Requirement		3
Fine Arts or non-HIST Social Science State/University Core Requirement		3
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
GERM 2003 Intermediate German I (ACTS Equivalency = GERM 2013) (Sp, Su, Fa) (or higher-level GERM course, depending on placement in sequence)		3
WLIT 1113 World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)	3	
or PHIL 2003 Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)		
Non-HIST Social Science or Fine Arts State/University Core Requirement (as needed)		3
Science University/State Core Lecture with Corequisite Lab Requirement		4
Year Total:	15	16

Second Year	Units	
	Fall	Spring
GERM 2013 Intermediate German II (ACTS Equivalency = GERM 2023) (Sp, Su, Fa) (or GERM 3000+ course as needed in sequence) <sup>1,2</sup>	3	
HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)	3	
Science University/State Core Lecture with Corequisite Lab Requirement	4	
General Elective	3	
General Elective	3	
GERM 3033 Conversation (Sp) (or GERM 3000+ course as needed in sequence) <sup>1,2</sup>		3
Advanced Level Elective <sup>1</sup>		3
Advanced Level Elective <sup>1</sup>		3
HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)		3
General Elective		3
Year Total:	16	15

Third Year	Units	
	Fall	Spring
GERM 3003 Advanced German I (Fa) (as needed, or GERM 3000+ elective) <sup>1,2</sup>	3	

GERM 3013 Introduction to Literature (Fa) (as needed, or GERM 3000+ elective) <sup>1,2</sup>	3	
Select one of the following:	3	
Additional World Language Course		
WLLC 2413 Migrant Experiences in Multicultural Europe (Irregular)		
WLLC 3173 Introduction to Linguistics (Irregular)		
WLLC 4023 Languages, Cultures, and Teaching with Technology (Irregular)		
Area Studies Course, approved by adviser		
General Elective	3	
GERM 4003 Advanced German II (Sp) (as needed, or GERM 3000+ elective) <sup>1,2</sup>	3	
GERM 4213 German Civilization (Irregular) (as needed, or GERM 3000+ elective) <sup>1,2</sup>	3	
3000-plus Level Elective <sup>1</sup>	3	
Advanced Level Elective or General Elective (as needed)	3	
General Elective	3	
Year Total:	12	15

Fourth Year	Units	
	Fall	Spring
GERM 3000+ elective or Advanced Level Elective as needed <sup>1,2</sup>	3	
Select one of the following:	3	
Additional World Language		
WLLC 2413 Migrant Experiences in Multicultural Europe (Irregular)		
WLLC 3173 Introduction to Linguistics (Irregular)		
WLLC 4023 Languages, Cultures, and Teaching with Technology (Irregular)		
Area Studies Course, approved by adviser		
3000+ elective or Advanced Level Elective as needed <sup>1</sup>	3	
Advanced Level Elective <sup>1</sup>	3	
General Electives	4	
GERM 4003 Advanced German II (Sp) (if still needed, or GERM 3000+ elective) <sup>2</sup>	3	
GERM 4213 German Civilization (Irregular) (if still needed, or GERM 3000+ elective) <sup>2</sup>	3	
Advanced Level Elective <sup>1</sup>	3	
Advanced Level Elective <sup>1</sup>	3	
3000-plus Level Elective <sup>1</sup>	3	
Year Total:	16	15
<hr/> Total Units in Sequence:		120

<sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations (p. 183).

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations (p. 183).

**Requirements for an Additional Major in German for Non-Arts and Science Students:** Students in colleges other than the Fulbright College of Arts and Sciences can complete an additional major in German by completing 24 hours in German:

GERM 3003	Advanced German I (Fa)	3
GERM 3013	Introduction to Literature (Fa)	3
GERM 3033	Conversation (Sp)	3
GERM 4003	Advanced German II (Sp)	3
GERM 4213	German Civilization (Irregular)	3
9 hours of upper-level electives		9
<hr/> Total Hours		24

Students must also fulfill their home college's core and the degree requirements for the major in their college to be eligible.

## Spanish

**Requirements for a Major in Spanish:** In addition to the University Core requirements (p. 81) and the Fulbright College of Arts and Sciences Graduation Requirements (p. 183), the following departmental and major course requirements must be met. Bolded courses from the list below may be applied to portions of the University/state minimum core requirements.

Six hours of language-related courses to be fulfilled by completing six hours of a single world language different than the major, or six hours from any combination of language-related area/ethnic studies courses, department-approved WLLC courses (such as WLLC 2413, WLLC 3173, WLLC 4023, WLLC 4033), or classical studies (CLST) courses.

Humanities to be fulfilled by: <sup>1</sup>		
PHIL 2003	Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)	3
	or WLIT 1113 World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)	

World Civilization (Social Sciences) to be fulfilled by: <sup>1,2</sup>		
HIST 1113	Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)	3
HIST 1123	Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)	3

27 hours in Spanish in courses numbered 3000 or above with a minimum grade of "C" in each course. Specific courses required are:

SPAN 3003	Advanced Spanish (Sp, Fa) <sup>3</sup>	3
SPAN 3033	Conversation and Composition (Sp, Fa)	3
SPAN 3103	Cultural Readings (Sp, Fa)	3
SPAN 3113	Introduction to Literature (Sp, Fa)	3
SPAN 4003	Advanced Grammar (Fa)	3

3000-4000 level or higher SPAN electives, selected in consultation with the major adviser<sup>4</sup>

<sup>1</sup> Honors students who complete the HUMN 1114H, HUMN 1124H, HUMN 2114H, HUMN 2124H (H2P) sequence will have fulfilled the World Civilization (HIST 1113 and HIST 1123) requirement for this major as well as the major's 3-hour Humanities requirement.

<sup>2</sup> This fulfills 6 hours of social science university/state core; the remaining 3 hours in the social science core must be fulfilled by a non-HIST social science university/state core course.

<sup>3</sup> SPAN 1013, 2003, and 2013 or equivalent may be required prior to taking SPAN 3003.

<sup>4</sup> Students considering future graduate work in Spanish are strongly advised to take both the Spanish and Latin American literature surveys (SPAN 4103 or SPAN 4113 and SPAN 4133 or SPAN 4193).

**Writing Requirement:** The college writing requirement may be satisfied by a term paper or other written work submitted for an upper-division world language literature class approved by the chair of the department.

## Spanish B.A. Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program. The following eight-semester plan refers to both University Core and additional departmental requirements as presented above. Hours may vary by individual, based on placement and previous credit granted. Once all core and departmental requirements are met, students may substitute a three-hour (or more) general elective in place of a core requirement.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) or MATH 2033 Mathematical Thought (Sp, Su, Fa) or MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) or MATH 2053 Finite Mathematics (Sp, Su, Fa) or MATH 2183 Mathematical Reasoning in a Quantitative World (Sp, Fa) or MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	3-4	
SPAN 1013 Elementary Spanish II (ACTS Equivalency SPAN 1023) (Sp, Fa) (or higher-level SPAN course, depending on placement in sequence)	3	
U.S. History University/State Core Requirement	3	
Non-HIST Social Science University/State Core Requirement	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
SPAN 2003 Intermediate Spanish I (ACTS Equivalency = SPAN 2013) (Sp, Fa) (or higher-level SPAN course, depending on placement in sequence)		3
An additional world language or WLLC 2413, WLLC 3173, WLLC 4023 or an area studies course approved by adviser		3
PHIL 2003 Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa) or WLIT 1113 World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)		3

Science University/State Core Lecture with Corequisite Lab Requirement		4
Year Total:	15	16

Second Year	Units	
	Fall	Spring
SPAN 2013 Intermediate Spanish II (ACTS Equivalency = SPAN 2023) (Sp, Fa) (as needed, or higher-level SPAN course) <sup>1,2</sup> or SPAN 3003 Advanced Spanish (Sp, Fa)	3	
HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)	3	
Science University/State Core Lecture with Corequisite Lab Requirement	4	
General Electives	6	
SPAN 3103 Cultural Readings (Sp, Fa) (or higher-level SPAN course) <sup>1,2</sup>		3
SPAN 3003 Advanced Spanish (Sp, Fa) (or Advanced Level Elective) <sup>1,2</sup>		3
HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)		3
General Electives		6
Year Total:	16	15

Third Year	Units	
	Fall	Spring
SPAN 3033 Conversation and Composition (Sp, Fa) (as needed, or higher-level SPAN class) <sup>1,2</sup>	3	
SPAN 3113 Introduction to Literature (Sp, Fa) (as needed, or higher-level SPAN class) <sup>1,2</sup>	3	
Fine Arts University/State Core Requirement	3	
Select one of the following:	3	
Additional World Language Course		
WLLC 2413 Migrant Experiences in Multicultural Europe (Irregular)		
WLLC 3173 Introduction to Linguistics (Irregular) <sup>2</sup>		
WLLC 4023 Languages, Cultures, and Teaching with Technology (Irregular) <sup>2</sup>		
Area Studies Course, approved by adviser		
General Electives	4	
SPAN 4003 Advanced Grammar (Fa) <sup>1,2</sup>		3
WLIT 1113 World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)		3
Advanced Level Elective <sup>1</sup>		3
Advanced Level Elective or General Elective (as needed)		3
Year Total:	16	12

Fourth Year	Units	
	Fall	Spring
SPAN 3000-4000 level elective <sup>1,2</sup>	3	
SPAN 3000-4000 level elective <sup>1,2</sup>	3	

Advanced Level Elective <sup>1</sup>	3	
General Electives	6	
SPAN 3000-4000 level elective <sup>1,2</sup>	3	3
SPAN 3000-4000 level elective <sup>1</sup>	3	3
3000+ Advanced Level Elective (as needed to meet residency requirement) <sup>1</sup>	3	3
Advanced Level Electives (as needed) or General Electives if 40-hour rule met <sup>1</sup>	6	6
Year Total:	15	15
<hr/>		
Total Units in Sequence:		120

<sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations (p. 183).

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations (p. 183).

**Arabic:** 15 hours in courses numbered 3000 or above. Specific courses required are:

ARAB 3016	Intensive Arabic III (Fa)	6
ARAB 4016	Intensive Arabic IV (Sp)	6
ARAB 4023	Advanced Arabic I (Irregular)	3

#### French:

15 hours in courses numbered 3000 or above. Specific courses required are:

FREN 3003	Advanced French (Sp, Su, Fa)	3
FREN 3113	Introduction to Literature (Sp)	3
FREN 4003	French Grammar and Composition (Fa)	3
FREN 4033	French for Oral Proficiency (Sp)	3

In some cases, specific course requirements may be adjusted to the individual needs of the candidate with the permission of the French adviser.

**German:** 15 hours in courses numbered 3000 or above. Specific courses required are:

GERM 3003	Advanced German I (Fa)	3
GERM 4003	Advanced German II (Sp)	3
GERM 4213	German Civilization (Irregular)	3
Three Hours of Literature		3

#### Italian:

15 hours to include the following:

ITAL 3033	Italian Conversation (Fa)	3
ITAL 3113	Introduction to Literature (Sp)	3
ITAL 3123	Advanced Italian (Sp)	3
ITAL 4033	Advanced Italian Conversation (Fa)	3

Choose one of the following: 3

ITAL 3103	Italian Cinema (Fa)	
ITAL 3983	Special Studies (Irregular)	

**Spanish:** 15 hours in courses numbered 3000 or above. Specific courses required are:

SPAN 3003	Advanced Spanish (Sp, Fa)	3
SPAN 3103	Cultural Readings (Sp, Fa)	3
	or SPAN 3123 Spanish for Heritage Speakers II (Irregular)	
SPAN 3113	Introduction to Literature (Sp, Fa)	3
SPAN 4003	Advanced Grammar (Fa)	3
And one of the following:		3
	SPAN 3033 Conversation and Composition (Sp, Fa)	
	or higher-numbered SPAN elective	

Total Hours 15

## Spanish for the Professions

**Spanish:** Courses required are:

SPAN 3003	Advanced Spanish (Sp, Fa)	3
SPAN 3103	Cultural Readings (Sp, Fa)	3
	or SPAN 3123 Spanish for Heritage Speakers II (Irregular)	
SPAN 4003	Advanced Grammar (Fa)	3
SPAN 4333	Business Spanish I (Sp, Fa)	3
	or SPAN 4563 Latino Youth Bilingual Service Learning Project (Irregular)	
	or SPAN 4583 Advanced Spanish for Health Professions (Irregular)	
SPAN 3033	Conversation and Composition (Sp, Fa) ( or higher-numbered SPAN elective)	3

In some cases, specific course requirements may be adjusted to the individual needs of the candidate with the permission of the Spanish adviser.

## Requirements for a Minor in World Languages with a Business Orientation

**Chinese:** Students in the Minor program in Chinese with a Business Orientation must complete 15 credit hours of upper-level Chinese courses.

#### Required Courses

CHIN 3003	Advanced Chinese (Fa)	3
CHIN 3033	Conversation (Sp)	3
CHIN 3103	Chinese Culture and Film (Fa)	3
CHIN 4333	Business Chinese Language in Speaking and Writing (Fa)	3
Choose one of the following elective courses:		3
	CHIN 3983 Special Studies (Irregular)	
	CHIN 4313 Culture and Society in China (Sp)	

In some cases, elective courses may be adjusted to the individual needs of the candidate with the permission of the Chinese adviser.

**French:** Courses required are:

FREN 3003	Advanced French (Sp, Su, Fa)	3
FREN 3103	Cultural Readings (Sp)	3
FREN 4003	French Grammar and Composition (Fa)	3
FREN 4033	French for Oral Proficiency (Sp)	3
FREN 4333	Introduction to Business French (Irregular)	3

**Spanish:** Courses required are:

SPAN 3003	Advanced Spanish (Sp, Fa)	3
SPAN 3103	Cultural Readings (Sp, Fa)	3
or SPAN 3123	Spanish for Heritage Speakers II (Irregular)	
SPAN 4003	Advanced Grammar (Fa)	3
SPAN 4333	Business Spanish I (Sp, Fa)	3
or SPAN 4563	Latino Youth Bilingual Service Learning Project (Irregular)	
or SPAN 4583	Advanced Spanish for Health Professions (Irregular)	
SPAN 3033	Conversation and Composition (Sp, Fa) ( or higher-numbered SPAN elective)	3

In some cases, specific course requirements may be adjusted to the individual needs of the candidate with the permission of the Spanish adviser.

**Japanese:** Students in the Minor program in Japanese with a Business Orientation must complete 15 credit hours of upper-level Japanese courses. Required courses are:

#### Advanced Japanese

JAPN 3116	Intensive Advanced Japanese (Fa) (or equivalent)	6
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#### Core Requirements

JAPN 3033	Advanced Japanese Conversation (Sp)	3
JAPN 4333	Professional Japanese I: Business Writing (Sp)	3

#### Electives

Select one of the following:		3
JAPN 3983	Special Studies (Irregular)	
JAPN 4033	Oral Communication & Composition in Japanese (Fa)	
JAPN 4213	Japanese Culture (Irregular)	
JAPN 4313	Language and Society of Japan (Fa)	
JAPN 4343	Professional Japanese II: Translation (Fa)	

In some cases, elective courses may be adjusted to the individual needs of the candidate with the permission of the Japanese adviser.

**Requirements for Honors in World Languages:** The Honors Program in World Languages gives students of high ability the opportunity to conduct independent research culminating in an honors thesis. In addition to satisfying general graduation requirements and all requirements for honors separately established by the Honors Council, candidates for honors in World Languages must:

1. Complete 12 hours of honors credit. One to six of these may be honors thesis hours; the remaining hours should be taken in disciplines chosen in consultation with the adviser;
2. Complete an honors thesis in the major field, and pass an oral examination on the thesis conducted by an honors committee, as evidence of substantial individual research skills;
3. Demonstrate superior competence in language, culture, and literature by achieving a GPA. of 3.5 in all upper-division courses submitted for the major.

Successful completion of these requirements will be recognized by the award of the distinction "Language Scholar Cum Laude." Higher degree distinctions are recommended only in truly exceptional cases and are based upon the whole of the candidate's program of honors studies.

#### World Language (B.A.) Teacher Licensure Requirements:

Please refer to the Secondary Education Requirements (p. 186) for Fulbright College Students.

## Sam M. Walton College of Business

### Mission and Objectives

#### Vision Statement

Through our teaching, research, and service, the Sam M. Walton College of Business will be a thought leader and a catalyst for transforming lives in Arkansas, the United States and the world.

#### Core Values

**Excellence:** We are driven to be the best in everything we do.

**Professionalism:** We operate with integrity, humility, respect, and Inclusion.

**Innovation:** We imagine possibilities, we create, and we inspire others.

**Collegiality:** We respect each individual, we value our differences, and we welcome all.

#### Mission Statement

The mission of the Sam M. Walton College of Business is to advance and disseminate business knowledge using a diverse, inclusive, and global perspective and to encourage innovation in our primary strategic endeavors: Retail, Data Analytics, and Entrepreneurship.

### Facilities and Resources

The Walton College offers degree programs for undergraduate students and for graduate students at both the master's and doctoral levels.

The Walton College is housed in four modern buildings supporting on-campus programs. These attractive facilities provide technology-equipped classrooms and state-of-the-art computer laboratories for both business classes and individual use. The buildings also house faculty and administrative offices, an honors program study area with computer access, the Walton College Career Development Center, the Garrison Financial Institute, and large study areas equipped for individual as well as group studying.

The library of the college is part of the general University Libraries and is housed in Mullins Library. The business and economics collection comprises approximately 55,000 volumes and makes this library one of the best in the region.

Walton College also operates centers for research, outreach, and public service. Information about these centers may be found in the University Centers and Research Units section of this catalog. Walton College centers include the following:

- Applied Sustainability Center
- Behavioral Business Research Lab
- Bessie B. Moore Center for Economic Education
- Center for Business and Economic Research
- Center for Retailing Excellence
- Executive Education

- Garrison Financial Institute
- Information Technology Research Institute
- McMillon Innovation Studio
- Small Business and Technology Development Center
- Supply Chain Management Research Center
- Tyson Center for Faith and Spirituality in the Workplace

## Degrees Offered

Undergraduate students may pursue curricula leading to one of the following degrees: Bachelor of Science in Business Administration (B.S.B.A), Bachelor of Science in International Business (B.S.I.B.). In each of these degree programs, the pre-business requirements must be completed before students may enroll in upper division business courses. Students in Walton College may pursue an academic minor in business or in the J. William Fulbright College of Arts and Sciences. Walton College also offers business minors for non-business students. Degree programs and minors are outlined on subsequent pages.

## College Admission Requirements

All students admitted to the University of Arkansas, Fayetteville, are eligible for admission to the Sam M. Walton College of Business. Students will be required to follow the degree program requirements set forth in the catalog corresponding to the student's first semester in Walton College, not the first semester of enrollment at the University of Arkansas.

## College Scholarships

High school graduates who expect to enroll in Walton College are encouraged to apply for scholarships made available to freshmen by individuals, business firms, and organizations. Also available to freshmen, regardless of degree program, are freshmen academic scholarships. Current Walton College students may apply for both college and departmental scholarships beginning in January of each year for the following academic year. Information on these financial awards may be secured from the University Scholarship Office and the Walton College Undergraduate Programs Office.

## Student Organizations

In addition to the general university student organizations, Walton College Student Ambassadors, Leadership Walton and a Business Dean's Student Advisory Board, there are several college societies open to Walton College students. These include the following:

- American Marketing Association
- Association for Information Systems
- Beta Alpha Psi (accounting honorary)
- Beta Gamma Sigma (business honorary)
- Enactus (formerly SIFE)
- Finance Club
- National Association of Black Accountants
- Omicron Delta Epsilon (economics honorary)
- Phi Beta Delta (international scholars honorary)
- S.A.K.E. (Students Acquiring Knowledge Through Enterprise)
- Society for Human Resource Management
- Students of Retailing Excellence (STORE)
- Transportation and Logistics Association
- Women Impacting Supply Excellence (WISE)

## Eight-Semester Degree Program Policy

### College Academic Regulations Pre-Business Requirements

Students pursuing a degree in Walton College are classified as pre-business with an intended major until all pre-business requirements are fulfilled. The following policies apply to the pre-business program:

To be eligible to enroll in upper-division business courses in Walton College, a student must complete the Walton College computer competency requirement, ISYS 1123 or ISYS 1120, and maintain at least a 2.50 (on a 4.00 scale) overall grade-point average (GPA) in addition to completing the 31 credit hours listed below of pre-business core courses (or their equivalents), also with at least a 2.50 GPA. Further, a student must complete all courses offered to meet this requirement with a grade of "C" or better or the requirement for graduation. The pre-business core courses are as follows:

ACCT 2013	Accounting Principles (Sp, Su, Fa)	3
ACCT 2023	Accounting Principles II (Sp, Su, Fa) * students majoring in Accounting or Finance must complete ACCT 2023	3
	or MGMT 2053 Business Foundations (Sp, Su, Fa)	
COMM 1313	Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3
ECON 2013	Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)	3
ECON 2023	Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)	3
ENGL 1013	Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3
ENGL 1023	Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)	3
MATH 2043	Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)	3
ISYS 1120	Computer Competency Requirement (Sp, Su, Fa)	0
	or ISYS 1123 Business Application Knowledge - Computer Competency (Sp, Su, Fa)	
MATH 2053	Finite Mathematics (Sp, Su, Fa)	3
WCOB 1111	Freshman Business Connection (Fa)	1
WCOB 1033	Data Analysis and Interpretation (Sp, Su, Fa)	3

Students' records will be evaluated each semester to determine whether a student should be moved to a major and have pre-business classification removed. After completing pre-business requirements and being admitted into his or her major, the student is expected to arrange for a pre-graduation check by the Undergraduate Programs Office to ascertain remaining degree requirements.

## Business Core Requirements

Students pursuing a degree in Walton College must complete the following business core courses.

BLAW 2013	The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa)	3
ISYS 2103	Business Information Systems (Sp, Su, Fa)	3
FINN 3043	Principles of Finance (Sp, Su, Fa)	3
MGMT 2103	Managing People and Organizations (Sp, Su, Fa)	3

MGMT 3013	Strategic Management (Sp, Su, Fa)	3
MKTG 3433	Introduction to Marketing (Sp, Su, Fa)	3
SCMT 2103	Introduction to Supply Chain Management (Sp, Fa)	3

## Registration in Junior/Senior-Level Walton College Courses

Walton College students must complete the pre-business requirements prior to enrollment in junior- or senior-level courses in Walton College.

Non-degree seeking students and students enrolled in other colleges are subject to the same course prerequisites as students within Walton College. Specific exceptions to this policy must be addressed to the assistant dean for undergraduate programs in Walton College.

**Restrictions on General Education Electives:** Only three hours total of general education electives will be allowed in Physical Education Activity (PEAC) or Dance Education Activity (DEAC) courses.

## Transfer of Credit Policies

In addition to the university policies controlling the granting of credit for course work taken at other institutions, the following policies apply to transfer work applied to any undergraduate business program:

- Transfer students considering admission to pursue a major in Walton College must have completed the pre-business courses and requirements listed above and have a 2.50 (on a 4.00 scale) cumulative grade-point average in the pre-business courses and in his or her overall grade-point average. Transfer students will be classified as pre-business students until pre-business core requirements have been completed.
- A pre-business and overall grade-point average for courses accepted for transfer by the University of Arkansas will be calculated and used to evaluate the completion of the pre-business requirements by students transferring courses from other institutions.
- Unless exceptions are granted at the time of admission to the University of Arkansas, transfer courses accepted by the university will not be accepted by Walton College for degree purposes unless a grade of "C" or better has been earned in each of these courses. (See the university Transfer of Credit page (p. 79).)
- A transferred course cannot carry more degree hours than are available in a similar University of Arkansas course. For example, a four-hour principles of economics course transfers as three degree hours.
- Business courses completed at the freshman or sophomore level at another institution will not count as equivalents of junior- or senior-level courses offered in Walton College (University of Arkansas), and no transfer credit shall be granted for any such course(s) in Walton College.
- At least 50 percent of program requirements in business and economics must be taken in residence.
- MGMT 3013, 21-24 hours of upper division courses required for the completion of the major, and 3-6 hours of additional, upper division business courses are required degree must be taken in residence at the University of Arkansas, Fayetteville.
- Junior- or senior-level core courses in business and economics may be transferred from a school accredited by AACSB International.
- Junior- or senior-level core courses taken at a non-AACSB International-accredited, four-year institution must either be repeated or validated by procedures specified and approved by the assistant dean for undergraduate programs.
- Junior- or senior-level electives in business and economics taken at a non-AACSB International-accredited, four-year institution may be accepted in transfer as junior/senior business electives.
- In cases of minors or transfer, students who take courses with different names but with similar content at different institutions or in different colleges within the University of Arkansas, may be allowed degree credit for only one of the courses (i.e.: principles of economics and agricultural economics). Students pursuing degrees and minors within the Walton College must enroll in business courses as designated by their program of study.
- Courses taken at any higher education institution where the course content is remedial are not acceptable for degree credit.
- The student should be prepared to submit course descriptions, syllabi, or other course-related information for transfer course work if there is any question as to whether Walton College will grant degree credit for such work.
- Exceptions: All requests for, exceptions to, and variations from the rules, regulations, and requirements of Walton College and the university should be made in writing to the assistant dean for undergraduate programs of Walton College. Consult the Undergraduate Programs Office in Walton College for these requests.

## Course Loads

The normal course load in Walton College is 15 to 17 hours per semester (and six hours per summer term). Students with a 2.75 grade-point average the previous semester may take a maximum of 18 hours. Seniors may take 18 to 19 hours, if required for graduation, during their final semester. Students on academic warning are limited to a maximum course load of 12 hours. University regulations on the number of hours allowed per semester are found in the Orientation and Registration section of this catalog.

## Foreign Language Concentration

An undergraduate B.S.B.A. degree-seeking student may elect to substitute 12 hours in a single upper-level foreign language for 12-15 hours of the 12-15 hours required in the junior-senior business elective block of courses for the degree requirements. Students who choose to use 12 hours of foreign language, but who are pursuing majors requiring 15 hours of junior-senior business electives, must take an additional 3 hour junior-senior business elective to satisfy degree requirements.

## Double Major

A student may elect to obtain a double major by completing all required courses for two majors in Walton College (but not in two concentrations within a single major). The minimum hour requirement for a double major is 138 degree credit hours to include all requirements for both majors. If there are courses common to both majors, the department chairs involved will agree upon and specify additional requirements in lieu of the common courses. The junior/senior business elective block is reduced by three hours; however, choice of the junior/senior business electives is restricted to no more than three total hours from each department that offers the two majors. Students who have elected to substitute a foreign language course of study for junior/senior business electives must complete 12 hours of junior/senior language courses.

The student must notify the Undergraduate Programs Office in Walton College of intent to pursue a double major. All requirements for double majors must be completed prior to awarding of a degree.



## Business Minors

The Walton College offers a variety of minors for students desiring specific knowledge in another area of business (outside their major) to assist them in their business careers. Students may elect to obtain a business major and a business minor by completing all required courses for both the major and the minor in the Walton College (but not a major and minor within the same discipline). Students must complete all requirements for both the major and the minor and may not use more than six hours of major courses toward minor requirements. If there are common courses to both, the department chairs involved will agree upon and specify additional requirements. Business minors require the completion of 15 specific hours of study and all upper level courses applied toward the minor must be taken in residence.

Students may elect to obtain multiple business minors by completing all required courses for all minors in the Walton College (but not minors within the same discipline). Students must complete all requirements for minors and may not use more than three hours of courses toward each of the minor requirements. However, if there are common courses to both, the department chairs involved will agree upon and specify additional requirements.

Students who desire to earn a business minor must notify the Walton College Undergraduate Programs Office of their intent to pursue a minor.

All requirements for the minor must be completed prior to the awarding of the student's undergraduate degree. All specific course prerequisites must be met. Each student must have a 2.00 cumulative GPA in the courses offered for the minor.

## Additional Bachelor's Degrees

Students seeking a second bachelor's degree must contact the Undergraduate Programs Office to ascertain specific requirements. Degree candidates must meet the university's general graduation requirements. The university requires that 1) the student take a minimum of 30 semester hours over the requirements for the first degree, and 2) the 30 hours cover a minimum of 36 weeks in residency at the Fayetteville campus. Walton College also requires that the student complete all courses in the pre-business and business core and the major and any additional business requirements (if some of these have been completed on the first degree, they are waived). It is recommended that any additional courses needed to finish the university's 30-hour requirement be junior or senior business electives. The second degree may be taken after the first is awarded, or both degrees may be awarded simultaneously after completion of all requirements for both.

## College Graduation Requirements

- University Requirements.** Degree candidates must meet the following: the university's general entrance requirements, number of credit hours required in residence, and the "requirements for graduation," including the University Core American history.
- Hour Requirements.** Degree candidates must satisfactorily complete the total number of semester hours specified for the curriculum in courses approved for one of the majors outlined in the succeeding pages. No less than 50 percent of the total credits must be in approved subjects other than business.

**NOTE:** Not all courses offered by the university will be accepted for degree credit by Walton College. Courses falling into this category are ENGL 0002, ENGL 0013, and MATH 0003. Developmental courses are defined as 1) any course so designated by the university, and 2) any lower-division course taken after a higher-level course is taken. Credit will not be given for duplicate course work.

- Grade Requirements.** Students must earn a grade of "C" or better in all pre-business core course requirements. Each student must have a 2.00 cumulative GPA in each of the following areas:
  - All work completed at the University of Arkansas.
  - All courses specifically designated for the major.
  - All required business core courses and required economics courses.
- General Education Course Work.** A student's general education course work must satisfy University Core Requirements, additional college/program course-specific requirements, as well as these two area requirements:
  - Social Issues, Multicultural Environment, and Demographic Diversity, and
  - Micro and Macroeconomics. If a student has not satisfied these area requirements within the fine arts and/or social sciences areas of the university core, these area requirements must be satisfied through general education electives to allow students to complete degree requirements within the hours indicated above.

Courses that satisfy these area requirements are listed below.

NOTE that many of these courses will also satisfy University Core Requirements. Where possible, a student should select courses that satisfy both requirements.

### A. Social Issues, Multicultural Environment, and Demographic Diversity

ANTH 1023	Introduction to Cultural Anthropology (ACTS Equivalency = ANTH 2013) (Sp, Su, Fa) (University Core)	3
ECON 3533	Labor Economics (Fa)	3
ECON 3843	Economic Development, Poverty & the Role of the World Bank and IMF in Low-Income Countries (Sp, Fa)	3
ECON 3853	Emerging Markets (Fa)	3
GEOS 1123	Human Geography (ACTS Equivalency = GEOG 1113) (Sp, Su, Fa)	3
HIST 1113	Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa) (University Core)	3
HIST 1123	Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa) (University Core)	3
MGMT 4583	International Management (Sp, Fa)	3
SOCI 2013	General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa) (University Core)	3
SOCI 2033	Social Problems (ACTS Equivalency = SOCI 2013) (Irregular) (University Core)	3

Any Foreign Language (University Core, if 2000-level or above, general education elective otherwise)

Any Walton College study abroad course

### B. Micro/Macro Economics

ECON 2013	Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa) (business core)	3
ECON 2023	Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa) (business core)	3

5. **Enrollment Requirement:** Students must earn a minimum of 30 semester hours on the Fayetteville campus – this includes study abroad classes, online and courses offered through the Global Campus. Other courses paid toward Fayetteville campus tuition and fees may be used with approval. These 30 semester hours must include MGMT 3013, 21-24 hours of upper division courses required for the completion of the major, and 3-6 hours of additional upper division courses required for the degree program. Specifically, required junior and senior courses in business or economics must be taken at the University of Arkansas or at an AACSB accredited school. At least 50 percent of the total hours in business and economics must be taken in residence.
6. **Catalog/Curriculum Changes.** Business is a dynamic profession, and the college and department curricula are updated continuously to keep pace with changes in the business world. Students entering under this catalog will be required to comply with such curricular changes to earn their degree. The total number of hours required for the degree, however, may not be increased, and all work completed in accordance with this catalog prior to the curriculum change will be applied toward the student's degree requirements. Furthermore, courses incorporated into the curriculum at a level lower than the one the student has completed are not required for that student unless there are specific prerequisites. Students entering under earlier catalogs are responsible for completing the graduation requirements as published in the catalog in effect when they entered the program. Students having interruptions of their academic programs that exceed two calendar years must complete the requirements published in the catalog in effect when they re-enter the program. Exceptions to the graduation requirements must be approved by the assistant dean for undergraduate programs.

The Walton College offers an eight-semester degree-completion program. In each of the majors listed in this chapter, at least one eight-semester schedule is shown. Some majors offer several concentrations, and eight-semester programs are available for each of the concentrations.

See more about the university's Eight-Semester Degree Policy (p. 73).

## Graduate Studies

The University of Arkansas offers the following advanced degrees in business: Master of Accountancy, Master of Business Administration, Master of Arts in Economics, Master of Information Systems, Doctor of Philosophy in Business Administration, and Doctor of Philosophy in Economics.

For further information about these programs and requirements for admission, see the Graduate School Catalog or write to the assistant director of marketing and recruiting, Graduate School of Business, 475 WJWH.

## Accreditations

The college has been a member of and accredited by AACSB International-The Association to Advance Collegiate Schools of Business since 1931. The accounting program was accredited separately in 1986 at both the bachelor's and master's level. The master's degree in the business administration program was approved in 1963. Accreditation by and membership in AACSB signifies commitment by the college to the goals of promoting and actualizing the highest standards of business education.

## Office of the Dean of the College

301 Business Building, 479-575-5949

### Dean

Matthew Waller

### Senior Associate Dean

Anne O'Leary-Kelly

### Associate Dean for Academic Programs and Research

Alan Ellstrand

### Associate Dean for Executive Education and Outreach

Brent Williams

### Assistant Dean for Undergraduate Programs

Karen M. Boston

### Assistant Dean for Graduate Programs

Marion M. Dunagan

### Assistant Dean for Finance and Administration

Tanya Clayburn

## Undergraduate Programs Office

328 Business Building, 479-575-4622

## Graduate School of Business

475 Walker Hall, 479-575-2851

**World Wide Web:** [waltoncollege.uark.edu](http://waltoncollege.uark.edu)

**E-mail:** [connect@walton.uark.edu](mailto:connect@walton.uark.edu)

Below majors, concentrations and minors are listed the college's cooperative education program.

## Majors, Concentrations and Minors

### Majors with Concentrations

- Accounting (p. 385)
- Economics (p. 388)
  - Business Economics
  - International Economics and Business
- Finance (p. 391)
  - Banking
  - Energy Finance
  - Financial Management/Investment
  - Insurance
  - Real Estate
- General Business (p. 372)
- Information Systems (p. 399)
  - Business Analytics
  - Enterprise Resource Planning
  - Enterprise Systems
- International Business (p. 373)
- Management (p. 403)
  - Human Resource Management

- Small Business and Entrepreneurship
- Organizational Leadership
- Marketing (p. 409)
- Retail (p. 411)
- Supply Chain Management (p. 413)
  - Transportation and Logistics
  - Retail Supply Chain Management

## Minors

For students majoring in a Walton College discipline, the following minors are available:

- Accounting (p. 385)
- Behavioral Economics (p. 388)
- Business Analytics (p. 399)
- Business Economics (p. 388)
- Enterprise Resource Planning (p. 416)
- Finance (p. 391)
- Financial Economics (p. 416)
- Information Systems (p. 399)
- International Business (p. 373)
- Management (p. 403)
- Marketing (p. 409)
- Nonprofit Studies (p. 416)
- Retail (p. 411)
- Supply Chain Management (p. 413)

## Minors in the J. William Fulbright College of Arts and Sciences

Students in Walton College may pursue an academic minor in the J. William Fulbright College of Arts and Sciences. Academic minors usually consist of 15 to 18 hours of course work. The available minors and course requirements are specified in the Fulbright College section of this catalog. Students must notify the Undergraduate Programs Office in Walton College of their intention to pursue a minor as early as possible. Walton College will certify that the requirements of the minor have been satisfied by graduation and, with the assistance of the Fulbright College, will advise students on the requirements to complete a minor. The minor will be designated on the student's transcript.

Courses that are part of the University Core Requirements or the additional General Education Requirements or any other non-business course that is part of a student's course of study may also be counted for credit in a minor. For example, ANTH 1023 Introduction to Cultural Anthropology, is a concentration in the B.S.B.A. social science block and can also be used to satisfy the requirements of the anthropology minor. Other courses in a minor can be counted as general education electives. Walton College economics majors in the business economics concentration or the international economics and business concentration may not obtain a Fulbright College minor in economics.

## Business Administration Minors for Non-Business Students

Read about the options for non-business students to pursue business administration minors (p. 417).

## Other Programs

### Cooperative Education

Cooperative education (co-op) is an academic program that enables students to gain degree-related experience prior to graduation. It is a planned, progressive educational strategy in which the student obtains work experience related to his or her academic major and career goals. Participating students earn academic credit for their work experiences and are always paid by their employers. Co-op students can maintain their status as full-time students while participating in the program, even if their co-op experience requires they spend a semester working full-time.

Walton College students are eligible for co-op credit if they have 1) completed the pre-business core and have obtained at least 60 hours of credit, 2) a cumulative grade-point average of 2.5 or better, and 3) a grade-point average of 2.5 or better for the last full-time term completed. Students may receive one hour of credit per semester for a job that requires 12-19 hours of work per week or two hours of credit per semester for a job that requires 20 or more hours per week. A maximum of six hours of degree credit may be awarded as a junior- senior-level business elective. Students may not utilize cooperative education credit toward major course requirements unless approved by department chair. Full-time students who work 40 hours or more per week in internships approved by the co-op education academic coordinator are eligible for three hours of academic credit per semester, or per full summer, provided they have a minimum GPA of 2.75, as well as having received a GPA of at least 2.75 in the prior full-time semester.

Students may seek either to qualify a job they have found themselves for co-op credit, or they may seek an employment opportunity through the Walton College Career Center, Willard J. Walker Hall 226. The employment opportunity may be either a full-time, off-campus work assignment that alternates with semesters spent on campus taking courses (an alternating co-op), or it may be a part-time job undertaken concurrently with course work (a parallel co-op). Once a student has been matched with an approved job, the co-op coordinator, the faculty co-op adviser, the student's work place supervisor, and the student work together to formulate career-related learning objectives for the coming semester of work. These objectives must be in writing and in to the cooperative education coordinator in order for a student to be registered for co-op. At the end of each semester of work, the student is required to submit a three- to ten-page paper (depending on credit hours to be received) that re-states the student's learning objectives for the semester and discusses how the job experience fulfilled the objectives. The student is also required to submit an employer evaluation form, and the work supervisor is asked to submit an evaluation of the student's work.

For information on participating in Walton College co-op program, a current listing of co-op opportunities, and phone numbers of people with whom you may discuss these opportunities, visit the Cooperative Education home page on the Web at [waltoncollege.uark.edu/coop/](http://waltoncollege.uark.edu/coop/).

## Honors Program

Walton College honors program consists of two components: the four-year Walton Scholars Program and the Departmental Scholars Program. Students participating in the honors program will be eligible to graduate *cum laude*, *magna cum laude*, or *summa cum laude*. Students who do not participate in the honors program are eligible to graduate with distinction, a classification separate from the *cum laude* awards. Honors program students will receive priority for participation in the Arkansas Cooperative Education Program, SAKE, the portfolio management class, and financial

support for study-abroad programs. They also have access to an honors study area.

## Graduation with Honors

The bachelor's degree *summa cum laude* (with highest honors), *magna cum laude* (with high honors), or *cum laude* (with honors) may be conferred only upon those students who have successfully completed the Walton College Honors Program. Both Walton Scholars and Departmental Scholars are eligible for these designations. Students whose cumulative grade-point average place them in the top 10 percent of their graduating class but who have not completed the Honors Program are eligible for the designation "With Distinction" on their official transcript. Among those students completing the Honors Program, the designations *summa cum laude*, *magna cum laude* and *cum laude* shall be determined as follows:

- Top 20 percent of students completing the Honors Program: *Summa Cum Laude*
- Next 30 percent of students completing the Honors Program: *Magna Cum Laude*
- Next 50 percent of students completing the Honors Program: *Cum Laude*

No honors degree will be conferred upon a candidate who has not completed at least 50 percent of his or her degree work at the University of Arkansas or who, in the last four semesters of attendance, has a cumulative grade-point average of less than 3.00 or has received a "D" or "F" in any course in the last semester. Certain other requirements will be outlined on request by the associate dean for undergraduate studies.

## Eligibility for the Honors Program

Admission will be offered to incoming freshmen with a minimum ACT/SAT score of 28/1240 or higher and a high school GPA of 3.75. Honors students are required to maintain a cumulative GPA of 3.50 with no grades of "D" or "F" in any course to remain in the program. All honors students are required to meet with the associate director for honors programs each semester to monitor progress of honors requirements. Students who maintain a GPA of 3.50 but do not complete honors requirements in a timely manner are subject to removal from the Honors Program at the discretion of the director of the honors program.

## Requirements for Walton Scholars Program:

1. Complete 17 hours in honors courses with a minimum of 9 hours completed from the following honors business courses: ACCT 2013H, BLAW 2013H, ECON 2013H, ECON 2023H, ISYS 2103H, MGMT 2103H, MKTG 3433H, SCMT 2103H, or WCOB 1033H (excluding WCOB 1111H). The remaining honors hours may be selected from the University Core. Completing honors courses in the Fulbright College will fulfill this requirement. MATH 2564 may be used as honors credit towards completion of the 17 required honors hours. Students must complete a minimum of 12 honors hours within the first 30 hours at the Fayetteville campus.
2. Demonstrate proficiency in a foreign language. This requires 0 to 12 hours of course work. Students may demonstrate proficiency by completing the 2013-level course in any foreign language. Students whose native language is not English must complete a 2013-level course other than their native language from Arabic, Chinese, French, German, Italian, Japanese, Spanish or COMM 2303 and COMM 2323. Students must complete a foreign language or communications course within the first 90 hours at the Fayetteville campus.

3. Students must also complete MATH 2554 with a grade of "C" within the first 45 hours at the Fayetteville campus prior to taking upper level business classes.
4. Complete the following honors courses in Walton College:
  - a. Two three-hour colloquium courses chosen from the following: WCOB 3003H (may be repeated for up to 6 hours of credit), ACCT 4003H, ECON 4003H, FINN 4003H, ISYS 4003H, MGMT 4003H, MKTG 4003H, SCMT 4003H or other business honors colloquium courses offered irregularly. One three-hour colloquium must be completed within the first 90 hours at the Fayetteville campus.
  - b. A three-hour thesis (WCOB 4993H): The thesis is a major independent writing project under the leadership of a Walton College or University of Arkansas faculty member and arises from a research project, business plan, business competition, or internship.
5. Complete an alternate honors capstone course MGMT 3013H Honors Strategic Management (Sp, Su, Fa), which should be completed within the first 90 hours at the Fayetteville campus.

## Requirements for the Departmental Scholars program:

Admission to the Honors Program as a departmental scholar will only be offered to current University of Arkansas students who have established a cumulative GPA of 3.75 upon completion of their freshmen year at the University of Arkansas. Transfer students may also apply upon completion of one semester at the University of Arkansas with a GPA of 3.75. All students must complete an application to be considered for acceptance into the departmental scholars program.

Honors students are required to maintain a cumulative GPA of 3.50 with no grades of "D" or "F" in any course to remain in the program. All honors students are required to meet with the associate director for honors programs each semester to monitor progress of honors requirements. Students who maintain a GPA of 3.50 but do not complete honors requirements in a timely manner are subject to removal from the Honors Program at the discretion of the director of the honors program.

1. Complete nine hours of honors courses to be selected from pre-business core or University Core. MATH 2564 may be used as honors credit towards completion of the 9 required honors hours.
2. Students must demonstrate proficiency in a foreign language by completing a 2003 course in any foreign language. Students whose native language is not English must complete a 2003-level course other than their native language or a third language from Arabic, Chinese, French, German, Italian, Japanese, Spanish or COMM 2303.
3. Students must also complete with a grade of "C" or better within the first 60 hours at the Fayetteville campus and prior to taking upper level business courses.
4. Complete the following courses in Walton College:
  - a. Two three-hour colloquium courses chosen from the following: WCOB 3003H (May be repeated for up to 6 hours of credit), ACCT 4003H, ECON 4003H, FINN 4003H, ISYS 4003H, MGMT 4003H, MKTG 4003H, SCMT 4003H or other business honors colloquium courses offered irregularly. One three hour honors colloquium must be completed within the first 90 hours at the Fayetteville campus.
  - b. A three-hour thesis (WCOB 4993H): The thesis is a major independent writing project under the leadership of a Walton

College or University of Arkansas faculty member and arises from a research project, business plan, business competition, or internship.

5. Complete the honors capstone course MGMT 3013H Honors Strategic Management (Sp, Su, Fa), which should be completed within the first 90 hours at the Fayetteville campus.

## B.S.B.A. Requirements

The Bachelor of Science in Business Administration (B.S.B.A.) degree is offered through an educational program in the business and organizational disciplines intended to prepare individuals to make sustained contributions to organizations and society in a global, diverse, and dynamic environment. To achieve this objective the curriculum focuses on developing an individual's interdisciplinary problem-solving skills, interpersonal and communication skills, ability to adapt to changing technology, spirit of entrepreneurial innovation, and ethical and professional values.

Walton College offers work in the following nine majors for the B.S.B.A. degree. Some majors have concentrations to allow additional specialization.

1. Accounting (p. 385) (ACCT)
2. Business Economics (p. 388) (BECO)
  - a. Business Economics Concentration
  - b. International Economics and Business Concentration
3. Finance (p. 391) (FINN)
  - a. Banking Concentration
  - b. Energy Finance Concentration
  - c. Financial Management/Investment Concentration
  - d. Insurance Concentration
  - e. Real Estate Concentration
4. General Business (p. 403) (GBUS)
5. Information Systems (p. 399) (ISYS)
  - a. Business Analytics
  - b. Enterprise Resource Planning Concentration
  - c. Enterprise Systems Concentration
6. Management (p. 403) (MGMT)
  - a. Human Resource Management Concentration
  - b. Small Business and Entrepreneurship Concentration
  - c. Organizational Leadership Concentration
7. Marketing (p. 409) (MKTG)
8. Retail (p. 409) (RETL)
9. Supply Chain Management (p. 413) (SCMT)
  - a. Retail Supply Chain Management Concentration
  - b. Transportation and Logistics Concentration

## Requirements for B.S.B.A. Degree

Students pursuing a degree in Walton College are classified as pre-business with an intended major until all pre-business requirements are fulfilled. To enroll in upper-division courses, a student must obtain at least a 2.50 (on a 4.00 scale) overall grade-point average in addition to the completion of all pre-business core courses (or equivalents), also with a minimum 2.50 GPA. Further, a student must earn a grade of "C" or better

in each pre-business core course for admission into the major or for the graduation requirement.

A. University Core Requirements	20
American History or Government	
Laboratory Science (two courses with labs) <sup>2</sup>	
Social Science (one course)	
Fine Arts and Humanities (two courses)	
B. Pre-Business Core Courses	31
ACCT 2013 Accounting Principles (Sp, Su, Fa) <sup>1</sup>	
ACCT 2023 Accounting Principles II (Sp, Su, Fa) <sup>1</sup>	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa) <sup>1</sup>	
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa) <sup>1</sup>	
ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa) <sup>1</sup>	
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)	
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) <sup>1</sup>	
MATH 2053 Finite Mathematics (Sp, Su, Fa)	
WCOB 1111 Freshman Business Connection (Fa) <sup>1</sup>	
ISYS 1120 Computer Competency Requirement (Sp, Su, Fa) <sup>1</sup> or ISYS 1123 Business Application Knowledge - Computer Competency (Sp, Su, Fa)	
WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa) <sup>1</sup>	
C. Business Core	21
BLAW 2013 The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa)	
ISYS 2103 Business Information Systems (Sp, Su, Fa)	
FINN 3043 Principles of Finance (Sp, Su, Fa)	
MGMT 2103 Managing People and Organizations (Sp, Su, Fa)	
MGMT 3013 Strategic Management (Sp, Su, Fa)	
MKTG 3433 Introduction to Marketing (Sp, Su, Fa)	
SCMT 2103 Introduction to Supply Chain Management (Sp, Fa)	
D. Junior-Senior Business Electives	12-15
E. Major Courses	21-24
F. General Education Electives <sup>3</sup>	12

<sup>1</sup> Pre-Business requirement: These 31 hours must be completed with a GPA of 2.50, an overall GPA of 2.5, and a grade of "C" or better in each course before a student is allowed to take upper-division business courses. Students intending to pursue a major or minor in Accounting or Finance must complete ACCT 2023.

<sup>2</sup> Students majoring in Finance with Energy Finance Concentration must complete GEOS 1133/GEOS 1131L for one of their natural science requirements.

<sup>3</sup> A total of 12 hours of general education electives are required for the Bachelor of Science in Business Administration (B.S.B.A.). General education electives should be non-business courses but may include up to six total hours of business courses and no more than three hours of PEAC or DEAC courses. Students may utilize general education electives to complete a minor outside the Walton College. In addition, these electives may fulfill requirements for Social Issues, Multicultural Environment, and Demographic Diversity if not otherwise completed in the University Core. Students majoring in Finance with an Energy Finance Concentration must complete GEOS 4253 as one of their general education elective credits.

(Total is less than the sum of the categories because some courses count in two categories and based on variation in junior-senior-level business electives and major requirements. A minimum of 120 hours is required for graduation.)

In addition to the core courses, each student will complete the required pre-business and business courses, junior- senior-level business electives, and major courses as specified by each major.

Each student must have a 2.00 cumulative grade-point average in each of the following areas: all work completed at this university, all courses specifically designated for the major, and all required Walton College core and economics courses. Students must earn a grade of "C" or better in each of the pre-business core courses.

## Online B.S.B.A.

### Faculty

**Melissa Adkins**, Instructor  
**Vikas Anand**, Professor, Charles C. Fitchner Chair in Management  
**Denise Breaux-Soignet**, Clinical Assistant Professor  
**John Delery**, Professor, Raymond F. Orr Chair in Management  
**Gary Dowdy**, Instructor  
**Alan E. Ellstrand**, Professor  
**Anna Goussevskaia**, Clinical Assistant Professor  
**Nina Gupta**, Distinguished Professor, John H. Tyson Chair in Management  
**Jon Johnson**, Professor, Walton College Professorship in Sustainability  
**Mahendra Joshi**, Adjunct Associate Professor  
**Jennifer Kish-Gephart**, Associate Professor  
**John Launder**, Instructor  
**Rebecca McKnight**, Instructor  
**Anne M. O'Leary-Kelly**, Professor, William R. and Cacia Howard Chair in Management  
**Brian K. Pullen**, Instructor  
**Carol Reeves**, Professor, Cecil and Gwendolyn Cupp Applied Professorship in Entrepreneurship  
**Jason Ridge**, Associate Professor  
**Carolyn Rodeffer**, Instructor  
**Chris Rosen**, Professor  
**Lauren Simon**, Assistant Professor  
**Dan Worrell**, Professor, Corporate Responsibility Professorship in Management  
**Michael Yates**, Instructor

Alan Ellstrand  
 Management Department Chair, 402 WCOB, 479-575-4566

General Business is the broadest major in Walton College. It is offered by the Department of Management, which also offers a major in management (p. 403). This online program provides the student

exposure to all facets of the business process. Maximum flexibility is retained by the student. At the same time, careful use of general and junior/senior business electives allows the student to concentrate additional coursework in one or more selected functional areas.

The Walton College Online Bachelor of Science in Business Administration degree is intended to provide students the opportunity to enroll in a four-year degree program online. In addition, the online degree affords students who have completed an Associate's Degree in Business or those who are near completion of their business degree, the option to complete a B.S.B.A. with a major in General Business.

### Admission

Students must apply to the University of Arkansas, Office of Admissions for consideration and indicate their interest in the online program on the admissions application. Students are required to submit an application for admission, official transcripts (either high school or college transcripts or both), and a \$40 application fee.

### Requirements for the Online Program

- Walton College Policy for On-Campus Students Taking Online Courses  
 Any student pursuing an on-campus (face to face) undergraduate degree from the University of Arkansas may take up to 35 percent of the total credit hours of regular online (semester/summer) and self-paced online (correspondence) courses for degree credit. On-campus students will be restricted to 2 courses (8 hours) of online classes within their first 30 hours. WCOB 1111 Freshman Business Connection (Fa), however, cannot be taken online. Thereafter, students can take up to 12 hours of online classes per academic year. For students who have transferred academic credits from other institutions, the percentage of total credit hours obtained at the University of Arkansas through regular online (semester/summer) and self-paced online (correspondence) courses for degree credit cannot exceed 35 percent of the total remaining hours needed to complete the degree after transfer credits are accounted for. In addition, on-campus students cannot enroll in online courses unless they have a cumulative GPA of at least 2.0 (after their first 15 hours of undergraduate coursework) and they have no more than one outstanding incomplete in a previous online course.
- Walton College Policy for Online Students Taking On-Campus Courses  
 Online students will be restricted to 8 hours of on-campus classes within their first 30 hours. Thereafter, students can take up to 12 hours of on-campus classes per academic year, but no more than 35 percent of their total credit hours on campus may be used in total toward their degree. Ordinarily, no more than 60 hours of coursework can be transferred from the online degree program into an on-campus degree program. Transfer credits for students who transfer into the online degree program will be evaluated the same as transfer credits for the on-campus program. For students who have transferred academic credits from other institutions, the percentage of total credit hours obtained at the University of Arkansas through regular online (semester/summer) and self-paced online (correspondence) courses for degree credit cannot exceed 35 percent of the total remaining hours needed to complete the degree after transfer credits are accounted for.
- Online students will have priority registration for online courses.

For questions regarding the Online Degree in General Business, please visit [online.uark.edu](http://online.uark.edu) or contact the Undergraduate Programs Office at 479-575-4622.

## Online Bachelor of Science in Business Administration - General Business Major Requirements

### Course Requirements in the Major

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Students must complete the following 21 hours by selecting one, three hour course from each of the following seven groups: (Sequencing of courses will be determined by choices made)

#### Group 1

ACCT 3533	Accounting Technology (Sp, Fa)
ACCT 3723	Intermediate Accounting I (Sp, Fa)
ACCT 3843	Fundamentals of Taxation I (Sp, Fa)

#### Group 2

ECON 3033	Microeconomic Theory (Sp, Su, Fa)
ECON 3133	Macroeconomic Theory (Sp, Fa)
ECON 4333	Economics of Organizations (Fa)

#### Group 3

FINN 3013	Financial Analysis (Sp, Su, Fa)
FINN 3053	Financial Markets and Institutions (Sp, Su, Fa)
FINN 3623	Risk Management (Sp, Fa)

#### Group 4

ISYS 2263	Principles of Information Systems (Sp, Fa)
ISYS 3293	Systems Analysis and Design (Sp, Fa)
ISYS 4213	ERP Fundamentals (Sp, Fa)

#### Group 5

MGMT 4243	Ethics and Corporate Responsibility (Sp, Fa)
MGMT 4253	Leadership (Sp, Fa)
MGMT 4263	Organizational Change and Development (Sp, Fa)

#### Group 6

MKTG 3553	Consumer Behavior (Sp, Fa)
MKTG 4233	Integrated Marketing Communications (Sp, Fa)
MKTG 4433	Retail Strategy (Sp, Fa)

#### Group 7

SCMT 3443	Transportation and Distribution Management (Sp, Fa)
SCMT 3613	Supply Management (Sp, Fa)
SCMT 3643	International Transportation and Logistics (Sp, Fa)

Maximum of 27 hours of courses in any one department (core, major, elective). More than 27 hours allowed if the extra courses are part of interdisciplinary minor or collateral track.

### Junior/Senior Business Electives

15

## B.S.I.B. Requirements

The Bachelor of Science in International Business degree is intended for students who wish to learn more about the international aspects of business. It provides preparation for a broad range of careers in business, including accounting, management, marketing, economics, information systems, finance, retail, and supply chain management. This degree is also well suited for students wishing to continue their studies in law, international affairs, or graduate education in business and economics.

This degree requires completion of the University Core and Walton College Core courses, as well as course work in international business, a single foreign language and an area of study related to that language. In addition, students must select a concentration in one of the following areas: accounting, business economics, information systems, finance, general business, management, marketing, retail or supply chain management.

Students pursuing a degree in the Sam M. Walton College of Business are classified as pre-business with an intended concentration until all pre-business requirements are fulfilled. For admission into the intended concentration, a student must obtain at least a 2.50 (on a 4.00 scale) overall grade-point average, in addition to the completion of all pre-business core courses listed elsewhere in the catalog (or equivalents), also with a minimum 2.50 grade-point average. Further, a student must earn a grade of "C" or better in each of the pre-business core courses for admission into the major or for the graduation requirement.

The International Business degree program has eight concentrations:

- Accounting
- Business Economics
- Finance
- General Business
- Information Systems
- Management
- Marketing
- Retail
- Supply Chain Management

In the eight-semester degree program for each concentration, the first four semesters of each of concentration are exactly the same.

## Graduation Requirements for the B.S.I.B. Degree

Each student must have a 2.00 cumulative grade-point average in each of the following areas: all work completed at this university, all courses in the business core, and all designated international business courses/functional concentration/world language courses. In addition, students must earn a grade of "C" or better in each of the pre-business core courses.

Courses that are required in either Walton College or the international business core and also are required in one of the business concentrations cannot be used to satisfy both requirements. For example, students who take FINN 3703 to satisfy the finance concentration requirements cannot also use it to satisfy the international business requirements.

### A. University Core Requirements

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Not including contributing courses in the Business Core
American History or Government
Laboratory Science (two courses with labs)
Social Science (one course)
Fine Arts and Humanities (one course)

### B. Pre-Business Core Courses

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ACCT 2013	Accounting Principles (Sp, Su, Fa)
ACCT 2023	Accounting Principles II (Sp, Su, Fa) * students pursuing a concentration in Accounting or Finance must complete ACCT 2023

or WCOB 2053

COMM 1313	Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)
ECON 2013	Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)
ECON 2023	Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)
ENGL 1013	Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)
ENGL 1023	Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)
MATH 2043	Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)
MATH 2053	Finite Mathematics (Sp, Su, Fa)
WCOB 1111	Freshman Business Connection (Fa)
ISYS 1120	Computer Competency Requirement (Sp, Su, Fa)
WCOB 1033	Data Analysis and Interpretation (Sp, Su, Fa)

#### **C. Business Core** 21

BLAW 2013	The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa)
ISYS 2103	Business Information Systems (Sp, Su, Fa)
FINN 3043	Principles of Finance (Sp, Su, Fa)
MGMT 2103	Managing People and Organizations (Sp, Su, Fa)
MGMT 3013	Strategic Management (Sp, Su, Fa)
MKTG 3433	Introduction to Marketing (Sp, Su, Fa)
SCMT 2103	Introduction to Supply Chain Management (Sp, Fa)

#### **D. International Business Course Requirements** 15

ECON 4633	International Trade (Sp, Fa)
ECON 4643	International Macroeconomics and Finance (Sp, Fa)

Select three of the following:

ECON 3843	Economic Development, Poverty & the Role of the World Bank and IMF in Low-Income Countries (Sp, Fa)
ECON 3853	Emerging Markets (Fa)
ECON 3933	The Japanese Economic System (Sp)
ECON 4173	Nation Model United Nations (Fa)
FINN 3703	International Finance (Sp, Su, Fa)
MGMT 4583	International Management (Sp, Fa)
MKTG 4633	Global Marketing (Sp, Fa)
SCMT 3643	International Transportation and Logistics (Sp, Fa)

(Other courses may fulfill this requirement if approved by the department chair)

### **E. World Language Requirements (9 hours)**

Students whose native language is English or whose native language is not taught at the University of Arkansas must complete nine hours of university course work in a single world language — three hours of intermediate language and six hours of upper-division course work in communications and business language, or equivalent. Based on prior knowledge of language, students may receive degree credit for courses if they validate their higher placement by passing the business language course (or equivalent) with a grade of “C” or above. Students with no previous world language training or only rudimentary knowledge of a world language will be required to complete up to nine hours of additional world language requirements — in addition to the nine hours of specified

language. No degree credit will be given for world language courses below 2013 course level. Students may select one of the following language tracks:

#### **Arabic**

ARAB 2013	Intermediate Arabic II (Irregular)
ARAB 2016	Intensive Arabic II (Sp)
ARAB 3016	Intensive Arabic III (Fa)
Or Equivalent	

#### **Chinese**

CHIN 2003	Intermediate Chinese I (Fa)
CHIN 2013	Intermediate Chinese II (Sp)
CHIN 3033	Conversation (Sp)
And any other Upper Division CHIN	

#### **French**

FREN 2003	Intermediate French I (ACTS Equivalency = FREN 2013) (Sp, Fa)
FREN 2013	Intermediate French II (ACTS Equivalency = FREN 2023) (Sp, Fa)
FREN 3033	French Conversation (Fa)
FREN 3003	Advanced French (Sp, Su, Fa)
FREN 4333	Introduction to Business French (Irregular)

#### **German**

GERM 2003	Intermediate German I (ACTS Equivalency = GERM 2013) (Sp, Su, Fa)
GERM 2013	Intermediate German II (ACTS Equivalency = GERM 2023) (Sp, Su, Fa)
GERM 3003	Advanced German I (Fa)
GERM 4333	Business German I (Fa)

#### **Italian**

ITAL 2003	Intermediate Italian I (Fa)
ITAL 2013	Intermediate Italian II (Sp)

#### **Japanese**

JAPN 2003	Intermediate Japanese I (Fa)
JAPN 2013	Intermediate Japanese II (Sp)
JAPN 3003	Advanced Japanese I (Irregular)
JAPN 3013	Advanced Japanese II (Irregular)

#### **Spanish**

SPAN 2003	Intermediate Spanish I (ACTS Equivalency = SPAN 2013) (Sp, Fa)
SPAN 2013	Intermediate Spanish II (ACTS Equivalency = SPAN 2023) (Sp, Fa)
SPAN 3003	Advanced Spanish (Sp, Fa)
SPAN 4333	Business Spanish I (Sp, Fa)

Students whose native language is not English but is taught at the University of Arkansas must select a third language from the list above or substitute six hours of upper-division English language courses (i.e., speech, writing, or U.S. literature), to be selected with the consent of an adviser and department chair. Those students whose native language is not taught at the University of Arkansas will normally be required to select a third language.

### **F. Area Studies Requirements (6 hours)**

For students taking a world language, six hours of upper-division coursework in the J. William Fulbright College of Arts and Sciences are



required. Domestic students can satisfy this requirement in one of three ways:

1. Any upper division foreign language course,
2. Minor in a foreign language, and/or
3. Select upper division courses related to the world language to include:
  - a. **Arabic** – any upper division course for Middle Eastern Studies (MEST) to include MEST 4003, MEST 4003H or additional courses listed under MEST in the university catalog
  - b. **Chinese/Japanese/Asian Studies** – any upper division course for Asian Studies (AIST)
  - c. **French** – any upper division course for EUST
  - d. **German** – any upper division course for EUST Italian – any upper division course for EUST
  - e. **Spanish** – any upper division course for Latin American Studies (LAST) or European Studies (EUST) to include LAST 4003, LAST 4003H, or additional courses listed under LAST in the university catalog, or EUST 399VH, EUST 4003, EUST 4003H, EUST 470V, or EUST 470VH or additional courses listed under EUST in the university catalog.

International students may satisfy this requirement in one of two ways:

1. For students who choose to take a third language, area studies requirements are the same as those for domestic students.
2. For students who choose to take six hours of upper division English to satisfy their language requirement, nine hours of upper division coursework in the J. William Fulbright College of Arts and Sciences pertaining to the United States to include any upper division course for American Studies (AMST) listed in the university catalog.

## G. International Experience Requirement

At a minimum, a student must complete a study abroad program approved by the Walton College of at least four weeks and six credit hours, or work abroad, or work with the international division of a domestic company as part of their program. Students are strongly encouraged, but not required, to seek job experience in a company located in a country related to their foreign language requirement. International students may elect to meet this requirement by working in their home country by obtaining prior approval from their adviser and department chair.

## H. Concentrations (21 hours)

Students must take seven courses in one of the following concentrations.

### Accounting Concentration

ACCT 3723	Intermediate Accounting I (Sp, Fa)	3
ACCT 3753	Intermediate Accounting II (Sp)	3
ACCT 3843	Fundamentals of Taxation I (Sp, Fa)	3
Six hours Junior/Senior Interdisciplinary Electives		6
Choose two of the following four courses:		6
ACCT 3533	Accounting Technology (Sp, Fa)	
ACCT 4673	Product, Project and Service Costing (Fa)	
ACCT 4753	Intermediate Accounting III (Sp, Fa)	
ACCT 4963	Audit and Assurance Services (Sp)	
<b>Total Hours</b>		<b>21</b>

In the eight-semester degree programs of each concentration, the first four semesters are exactly the same. In addition to the coursework listed below, students must complete an International Experience Requirement.

Courses in **BOLD** must be taken in the semester designated. Although other courses listed are not required to be completed in the designated sequence, the recommendations noted below are preferred.

## Accounting B.S.I.B. Eight-Semester Degree Program

Students who wish to pursue the eight-semester degree program should see the Eight-Semester Degree Policy (p. 73) for requirements of the program.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa) (University Core)	3	
MATH 2053 Finite Mathematics (Sp, Su, Fa) (University Core)	3	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)*	3	
WCOB 1111 Freshman Business Connection (Fa)	1	
BLAW 2013 The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa)**	3	
WCOB 1120	0	
Intermediate World Language I (2003/2013 level)	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa) (University Core)		3
ACCT 2013 Accounting Principles (Sp, Su, Fa)		3
WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa)		3
ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)		3
Foreign Language (3000 level or higher)		3
<b>Year Total:</b>	<b>16</b>	<b>15</b>

Second Year	Units	
	Fall	Spring
ACCT 2023 Accounting Principles II (Sp, Su, Fa)	3	
ISYS 2103 Business Information Systems (Sp, Su, Fa)**	3	
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)***	3	
U.S. History or Political Science (University Core)	3	
Foreign Language course (3000 level or higher)	3	
SCMT 2103 Introduction to Supply Chain Management (Sp, Fa)**		3
MGMT 2103 Managing People and Organizations (Sp, Su, Fa)**		3
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)***		3
Fine Arts/Humanities-University Core		3
Natural Science (University Core)		4
All pre-business requirements should be met by end of term		
<b>Year Total:</b>	<b>15</b>	<b>16</b>

Third Year	Units	
	Fall	Spring
FINN 3043 Principles of Finance (Sp, Su, Fa)**	3	
MKTG 3433 Introduction to Marketing (Sp, Su, Fa)**	3	
ACCT 3723 Intermediate Accounting I (Sp, Fa)	3	
ACCT 3843 Fundamentals of Taxation I (Sp, Fa)	3	
International Business and Collateral Elective	3	
ACCT 3753 Intermediate Accounting II (Sp)		3
ACCT Elective		3
MGMT 3013 Strategic Management (Sp, Su, Fa)		3
ECON 4633 International Trade (Sp, Fa)		3
Social Science – University Core		3
Year Total:	15	15

Fourth Year	Units	
	Fall	Spring
ECON 4643 International Macroeconomics and Finance (Sp, Fa)	3	
International Business and Collateral Elective	3	
Area Studies Course	3	
Junior/Senior Business Elective	3	
Natural Science– University Core	4	
ACCT Elective		3
Area Studies Course		3
International Business and Collateral Elective		3
Junior/Senior Business Electives		3
Year Total:	16	12

Total Units in Sequence: 120

\* Must be completed prior to WCOB 1033.

\*\* Must be completed prior to MGMT 3013.

\*\*\* Must be completed prior to taking any 3000 or 4000 level business electives.

### Business Economics Concentration

ECON 3033	Microeconomic Theory (Sp, Su, Fa)	3
ECON 3133	Macroeconomic Theory (Sp, Fa)	3
ECON 4333	Economics of Organizations (Fa)	3
ECON 4743	Introduction to Econometrics (Sp)	3
Three hours	Junior/Senior Economics Electives	3
Six hours	of Junior/Senior Electives	6
Total Hours		21

In the eight-semester degree programs of each concentration, the first four semesters are exactly the same. In addition to the coursework listed below, students must complete an International Experience Requirement. Courses in **BOLD** must be taken in the semester designated. Although other courses listed are not required to be completed in the designated sequence, the recommendations noted below are preferred.

### International Business B.S.I.B. with Business Economics Concentration Eight-Semester Degree Program

Students who wish to pursue the eight-semester degree program should see the Eight-Semester Degree Policy (p. 73) for requirements of the program.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa) ((University Core))	3	
MATH 2053 Finite Mathematics (Sp, Su, Fa) ((University Core))	3	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)*	3	
WCOB 1111 Freshman Business Connection (Fa)	1	
BLAW 2013 The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa)**	3	
ISYS 1120 Computer Competency Requirement (Sp, Su, Fa)	0	
Intermediate World Language (2003/2013 level)	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa) (University Core)		3
ACCT 2013 Accounting Principles (Sp, Su, Fa)		3
WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa)		3
ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)		3
Foreign Language (3000 level or higher)		3
Year Total:	16	15

Second Year	Units	
	Fall	Spring
MGMT 2053 Business Foundations (Sp, Su, Fa) or ACCT 2023 Accounting Principles II (Sp, Su, Fa)	3	
ISYS 2103 Business Information Systems (Sp, Su, Fa)**	3	
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) ***	3	
U.S. History or Political Science (University Core)	3	
Foreign Language course (3000 level or higher)	3	
SCMT 2103 Introduction to Supply Chain Management (Sp, Fa)**		3
MGMT 2103 Managing People and Organizations (Sp, Su, Fa)**		3
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa) ***		3
Fine Art/Humanities (University Core)		3
Natural Science (University Core)		4
All pre-business requirements should be met by the end of term.		
Year Total:	15	16

Third Year	Units	
	Fall	Spring
FINN 3043 Principles of Finance (Sp, Su, Fa)**	3	
MKTG 3433 Introduction to Marketing (Sp, Su, Fa)**	3	
ECON 3133 Macroeconomic Theory (Sp, Fa)	3	
International Business and Collateral Elective	3	
ECON 4743 Introduction to Econometrics (Sp)		3
ECON Elective		3
ECON 4633 International Trade (Sp, Fa)		3
MGMT 3013 Strategic Management (Sp, Su, Fa)		3
Social Science– University Core		3
Year Total:	12	15

Fourth Year	Units	
	Fall	Spring
ECON 4333 Economics of Organizations (Fa)	3	
ECON 4643 International Macroeconomics and Finance (Sp, Fa)	3	
International Business and Collateral Elective	3	
Area Studies Course	3	
Natural Science – University Core	4	
Junior/Senior ECON elective		3
Area Studies Course		3
International Business and Collateral Elective		3
Junior/Senior Business Electives		6
Year Total:	16	15

Total Units in Sequence: 120

\* Must be completed prior to WCOB 1033.

\*\* Must be completed prior to MGMT 3013.

\*\*\* Must be completed prior to taking any 3000 or 4000 level business courses.

## Finance Concentration

FINN 3053	Financial Markets and Institutions (Sp, Su, Fa)	3
FINN 3703	International Finance (Sp, Su, Fa)	3
FINN 3063	Investments (Sp, Su, Fa)	3
or FINN 3603	Corporate Finance (Sp, Su, Fa)	
FINN 4133	Advanced Investments (Sp, Fa)	3
or FINN 4233	Advanced Corporate Finance (Irregular)	
Three hours	Junior/Senior Finance Electives	3
Six hours	Junior/Senior Electives	6
Total Hours		21

In the eight-semester degree programs of each concentration, the first four semesters are exactly the same. In addition to the coursework listed below, students must complete an International Experience Requirement. Courses in **BOLD** must be taken in the semester designated. Although other courses listed are not required to be completed in the designated sequence, the recommendations noted below are preferred.

## International Business B.S.I.B. with Finance Concentration Eight-Semester Degree Program

Students who wish to pursue the eight-semester degree program should see the Eight-Semester Degree Policy (p. 73) for requirements of the program.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2053 Finite Mathematics (Sp, Su, Fa)		3
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)*		3
WCOB 1111 Freshman Business Connection (Fa)		1
BLAW 2013 The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa)**		3
ISYS 1120 Computer Competency Requirement (Sp, Su, Fa)		0
Intermediate World Language (2003/2013 level or higher)		3
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
ACCT 2013 Accounting Principles (Sp, Su, Fa)		3
WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa)		3
ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)		3
Foreign Language (3000 level or higher)		3
Year Total:	16	15

Second Year	Units	
	Fall	Spring
MGMT 2053 Business Foundations (Sp, Su, Fa)	3	
ISYS 2103 Business Information Systems (Sp, Su, Fa)**	3	
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)***	3	
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)***	3	
Foreign Language course (3000 level or higher)	3	
SCMT 2103 Introduction to Supply Chain Management (Sp, Fa)**		3
MGMT 2103 Managing People and Organizations (Sp, Su, Fa)**		3
FINN 3043 Principles of Finance (Sp, Su, Fa)**		3
Fine Art/Humanities (University Core)		3
Natural Science (University Core)		4
All pre-business requirements should be met by end of term		
Year Total:	15	16

Third Year	Units	
	Fall	Spring
MKTG 3433 Introduction to Marketing (Sp, Su, Fa)**	3	
FINN 3013 Financial Analysis (Sp, Su, Fa)	3	
FINN 3053 Financial Markets and Institutions (Sp, Su, Fa)	3	
U.S. History or Political Science-University Core	3	
FINN 3063 Investments (Sp, Su, Fa) or FINN 3603 Corporate Finance (Sp, Su, Fa)		3
FINN 3703 International Finance (Sp, Su, Fa)		3
ECON 4633 International Trade (Sp, Fa)		3
MGMT 3013 Strategic Management (Sp, Su, Fa)		3
Social Science– University Core		3
Year Total:	12	15

Fourth Year	Units	
	Fall	Spring
FINN 4133 Advanced Investments (Sp, Fa) or FINN 4233 Advanced Corporate Finance (Irregular)	3	
ECON 4643 International Macroeconomics and Finance (Sp, Fa)	3	
International Business and Collateral Elective Area Studies Course	3	
Natural Science – University Core	4	
Area Studies Course		3
International Business and Collateral Elective		6
Junior/Senior Business Electives		6
Year Total:	16	15

Total Units in Sequence: 120

- \* Must be completed prior to WCOB 1033.
- \*\* Must be completed prior to MGMT 3013.
- \*\*\* Must be completed prior to taking any 3000 or 4000 level course.

### General Business Concentration

Five 3000/4000-level courses in Walton College; no more than 9 hours in a single academic area	15
Six hours of Junior/Senior Interdisciplinary Electives	6
Total Hours	21

In the eight-semester degree programs of each concentration, the first four semesters are exactly the same. In addition to the coursework listed below, students must complete an International Experience Requirement. Courses in **BOLD** must be taken in the semester designated. Although other courses listed are not required to be completed in the designated sequence, the recommendations noted below are preferred.

### International Business B.S.I.B. with General Business Concentration Eight-Semester Degree Program

Students who wish to pursue the eight-semester degree program should see the Eight-Semester Degree Policy (p. 73) for requirements of the program.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa) (University Core)	3	
MATH 2053 Finite Mathematics (Sp, Su, Fa) (University Core)	3	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)*	3	
WCOB 1111 Freshman Business Connection (Fa)	1	
BLAW 2013 The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa)**	3	
ISYS 1120 Computer Competency Requirement (Sp, Su, Fa)	0	
Intermediate World Language (2003/2013 level or higher)	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
ACCT 2013 Accounting Principles (Sp, Su, Fa)		3
WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa)		3
ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)		3
Foreign Language (3000 level or higher)		3
Year Total:	16	15

Second Year	Units	
	Fall	Spring
MGMT 2053 Business Foundations (Sp, Su, Fa) or ACCT 2023 Accounting Principles II (Sp, Su, Fa)	3	
ISYS 2103 Business Information Systems (Sp, Su, Fa)**	3	
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)***	3	
U.S. History or Political Science (University Core)	3	
Foreign Language course (3000 level or higher)	3	
SCMT 2103 Introduction to Supply Chain Management (Sp, Fa)**		3
MGMT 2103 Managing People and Organizations (Sp, Su, Fa)**		3
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)***		3
Fine Art/Humanities course (University Core)		3
Natural Science (University Core)		4
ALL pre-business requirements should be met by end of term		
Year Total:	15	16

Third Year	Units	
	Fall	Spring
FINN 3043 Principles of Finance (Sp, Su, Fa)**	3	
MKTG 3433 Introduction to Marketing (Sp, Su, Fa)**	3	
Junior/Senior Business Elective	3	
International Business and Collateral Elective	3	
MGMT 3013 Strategic Management (Sp, Su, Fa)		3
Junior/Senior Business Electives		6
ECON 4633 International Trade (Sp, Fa)		3
Social Science – University Core		3
Year Total:	12	15

Fourth Year	Units	
	Fall	Spring
Junior/Senior Business Elective	3	
ECON 4643 International Macroeconomics and Finance (Sp, Fa)	3	
International Business and Collateral Elective	3	
Area Studies Course	3	
Natural Science – University Core	4	
Junior/Senior Business Electives		9
Area Studies Course		3
International Business and Collateral Elective		3
Year Total:	16	15

Total Units in Sequence: 120

\* Must be completed prior to WCOB 1033.

\*\* Must be completed prior to MGMT 3013.

\*\*\* Must be completed prior to taking any 3000 or 4000 level business courses.

## Information Systems Concentration

ISYS 2263	Principles of Information Systems (Sp, Fa)	3
ISYS 3293	Systems Analysis and Design (Sp, Fa)	3
ISYS 3393	Business Application Development Fundamentals (Sp)	3
ISYS 4283	Business Database Systems (Fa)	3
Three hours of Junior/Senior Information Systems Electives		3
Six hours of Junior/Senior Interdisciplinary Electives		6
Total Hours		21

In the eight-semester degree programs of each concentration, the first four semesters are exactly the same. In addition to the coursework listed below, students must complete an International Experience Requirement. Courses in **BOLD** must be taken in the semester designated. Although other courses listed are not required to be completed in the designated sequence, the recommendations noted below are preferred.

## International Business B.S.I.B. with Information Systems Concentration Eight-Semester Degree Program

Students who wish to pursue the eight-semester degree program should see the Eight-Semester Degree Policy (p. 73) for requirements of the program.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2053 Finite Mathematics (Sp, Su, Fa)		3
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)*		3
WCOB 1111 Freshman Business Connection (Fa)		1
BLAW 2013 The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa)**		3
ISYS 1120 Computer Competency Requirement (Sp, Su, Fa)		0
Intermediate World Language (2003/2013 level or higher)		3
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
ACCT 2013 Accounting Principles (Sp, Su, Fa)		3
WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa)		3
ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)		3
Foreign Language course (3000 level or higher)		3
Year Total:	16	15

Second Year	Units	
	Fall	Spring
MGMT 2053 Business Foundations (Sp, Su, Fa) or ACCT 2023 Accounting Principles II (Sp, Su, Fa)	3	
ISYS 2103 Business Information Systems (Sp, Su, Fa)**	3	
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)***	3	
U.S. History or Political Science (University Core)	3	
Foreign Language course (3000 level or higher)	3	
SCMT 2103 Introduction to Supply Chain Management (Sp, Fa)**		3
MGMT 2103 Managing People and Organizations (Sp, Su, Fa)**		3
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)***		3
Fine Art/Humanities course (University Core) or ACCT 2013 Accounting Principles (for Accounting concentration)		3
Natural Science (University Core)		4
ALL pre-business requirements should be met by end of term		
Year Total:	15	16

Third Year	Units	
	Fall	Spring
FINN 3043 Principles of Finance (Sp, Su, Fa)**	3	
MKTG 3433 Introduction to Marketing (Sp, Su, Fa)**	3	
ISYS 2263 Principles of Information Systems (Sp, Fa)	3	
International Business and Collateral Elective	3	
ISYS 3293 Systems Analysis and Design (Sp, Fa)		3
ISYS 3393 Business Application Development Fundamentals (Sp)		3
MGMT 3013 Strategic Management (Sp, Su, Fa)		3
ECON 4633 International Trade (Sp, Fa)		3
Social Science – University Core		3
Year Total:	12	15

Fourth Year	Units	
	Fall	Spring
ISYS 4283 Business Database Systems (Fa)	3	
ECON 4643 International Macroeconomics and Finance (Sp, Fa)	3	
International Business and Collateral Elective	3	
Area Studies Course	3	
Natural Science – University Core	4	
ISYS Elective		3
Area Studies Courses		3
International Business and Collateral Elective		3
Junior/Senior Business Electives		6
Year Total:	16	15

Total Units in Sequence: 120

\* Must be completed prior to WCOB 1033.

\*\* Must be completed prior to MGMT 3013.

\*\*\* Must be completed prior to taking any 3000 or 4000 level business courses.

## Management Concentration

MGMT 4243 Ethics and Corporate Responsibility (Sp, Fa)	3
MGMT 4583 International Management (Sp, Fa)	3
Nine hours of Junior/Senior Management Electives	9
Six hours of Junior/Senior Interdisciplinary Electives	6
Total Hours	21

In the eight-semester degree programs of each concentration, the first four semesters are exactly the same. In addition to the coursework listed below, students must complete an International Experience Requirement. Courses in **BOLD** must be taken in the semester designated. Although other courses listed are not required to be completed in the designated sequence, the recommendations noted below are preferred.

## International Business B.S.I.B. with Management Concentration Eight-Semester Degree Program

Students who wish to pursue the eight-semester degree program should see the Eight-Semester Degree Policy (p. 73) for requirements of the program.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2053 Finite Mathematics (Sp, Su, Fa)		3
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)*		3
WCOB 1111 Freshman Business Connection (Fa)	1	
BLAW 2013 The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa)**	3	
ISYS 1120 Computer Competency Requirement (Sp, Su, Fa)		0
Intermediate World Language course (2003/2013 level or higher)		3
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
ACCT 2013 Accounting Principles (Sp, Su, Fa)		3
WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa)		3
ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)		3
Foreign Language course (3000 level or higher)		3
Year Total:	16	15

Second Year	Units	
	Fall	Spring
MGMT 2053 Business Foundations (Sp, Su, Fa) or ACCT 2023 Accounting Principles II (Sp, Su, Fa)	3	
ISYS 2103 Business Information Systems (Sp, Su, Fa)**	3	
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)***	3	
U.S. History or Political Science (University Core)	3	
Foreign Language course (3000 level or higher)	3	
SCMT 2103 Introduction to Supply Chain Management (Sp, Fa)**		3
MGMT 2103 Managing People and Organizations (Sp, Su, Fa)**		3
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)***		3
Fine Arts/Humanities-University Core		3
Natural Science (University Core)		4
ALL pre-business requirements should be met by end of term		
Year Total:	15	16

Third Year	Units	
	Fall	Spring
FINN 3043 Principles of Finance (Sp, Su, Fa)**	3	
MKTG 3433 Introduction to Marketing (Sp, Su, Fa)**	3	
MGMT 4243 Ethics and Corporate Responsibility (Sp, Fa)	3	
International Business and Collateral Elective	3	
MGMT 4583 International Management (Sp, Fa)		3
MGMT Elective		3
MGMT 3013 Strategic Management (Sp, Su, Fa)		3
ECON 4633 International Trade (Sp, Fa)		3
Social Science – University Core		3
Year Total:	12	15

Fourth Year	Units	
	Fall	Spring
MGMT Elective	3	
ECON 4643 International Macroeconomics and Finance (Sp, Fa)	3	
International Business and Collateral Elective	3	
Area Studies Course	3	
Natural Science – University Core	4	
MGMT Elective		3
Area Studies Course		3
International Business and Collateral Elective		3
Junior Senior Business Electives		6
Year Total:	16	15

Total Units in Sequence: 120

\* Must be completed prior to WCOB 1033.

\*\* Must be completed prior to MGMT 3013.

\*\*\* Must be completed prior to taking any 3000 or 4000 level business courses.

## Marketing Concentration

MKTG 3553	Consumer Behavior (Sp, Fa)	3
MKTG 3633	Marketing Research (Sp, Fa)	3
MKTG 4633	Global Marketing (Sp, Fa)	3
MKTG 4853	Marketing Management (Sp, Fa)	3
Three hours of Junior/Senior Marketing Elective		3
Six hours of Junior/Senior Interdisciplinary Electives		6
Total Hours		21

In the eight-semester degree programs of each concentration, the first four semesters are exactly the same. In addition to the coursework listed below, students must complete an International Experience Requirement. Courses in **BOLD** must be taken in the semester designated. Although other courses listed are not required to be completed in the designated sequence, the recommendations noted below are preferred.

## International Business B.S.I.B. with Marketing Concentration Eight-Semester Degree Program

Students who wish to pursue the eight-semester degree program should see the Eight-Semester Degree Policy (p. 73) for requirements of the program.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2053 Finite Mathematics (Sp, Su, Fa)		3
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)*		3
WCOB 1111 Freshman Business Connection (Fa)		1
BLAW 2013 The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa)**		3
ISYS 1120 Computer Competency Requirement (Sp, Su, Fa)		0
Intermediate World Language (2003/2013 level or higher)		3
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
ACCT 2013 Accounting Principles (Sp, Su, Fa)		3
WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa)		3
ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)		3
Foreign Language (3000 level or higher)		3
Year Total:	16	15

Second Year	Units	
	Fall	Spring
MGMT 2053 Business Foundations (Sp, Su, Fa) or ACCT 2023 Accounting Principles II (Sp, Su, Fa)	3	
ISYS 2103 Business Information Systems (Sp, Su, Fa)**	3	
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)***	3	
U.S. History or Political Science (University Core)	3	
Foreign Language (3000 level or higher)	3	
SCMT 2103 Introduction to Supply Chain Management (Sp, Fa)**		3
MGMT 2103 Managing People and Organizations (Sp, Su, Fa)**		3
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)***		3
Fine Art/Humanities (University Core) or ACCT 1013 Accounting Principles (for Accounting concentration)		3
Natural Science (University Core)		4
ALL pre-business requirements should be met by end of term		
Year Total:	15	16

Third Year	Units	
	Fall	Spring
FINN 3043 Principles of Finance (Sp, Su, Fa)**	3	
MKTG 3433 Introduction to Marketing (Sp, Su, Fa)**	3	
ECON 4633 International Trade (Sp, Fa)	3	
International Business and Collateral Elective	3	
Social Science - University Core	3	
MKTG 3553 Consumer Behavior (Sp, Fa)		3
MKTG 3633 Marketing Research (Sp, Fa)		3
MGMT 3013 Strategic Management (Sp, Su, Fa)		3
Area Studies Course		3
Year Total:	15	12

  

Fourth Year	Units	
	Fall	Spring
MKTG 4633 Global Marketing (Sp, Fa)	3	
ECON 4643 International Macroeconomics and Finance (Sp, Fa)	3	
International Business and Collateral Elective	3	
Area Studies Course	3	
Natural Science – University Core	4	
MKTG 4853 Marketing Management (Sp, Fa)		3
MKTG Elective		6
International Business and Collateral Elective		3
Junior/Senior Business Electives		3
Year Total:	16	15

  

Total Units in Sequence:	120	
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\* Must be completed prior to WCOB 1033.

\*\* Must be completed prior to MGMT 3013.

\*\*\* Must be completed prior to taking any 3000 or 4000 level business courses.

## Retail Concentration

MKTG 3553	Consumer Behavior (Sp, Fa)	3
MKTG 3633	Marketing Research (Sp, Fa)	3
MKTG 4433	Retail Strategy (Sp, Fa)	3
MKTG 4443	Retail Buying and Merchandise (Sp, Fa)	3
Select three courses from the following:		9
MKTG 4103	Marketing Topics (Irregular)	
MKTG 4233	Integrated Marketing Communications (Sp, Fa)	
MKTG 4633	Global Marketing (Sp, Fa)	
SCMT 3443	Transportation and Distribution Management (Sp, Fa)	
Total Hours		21

In the eight-semester degree programs of each concentration, the first four semesters are exactly the same. In addition to the coursework listed below, students must complete an International Experience Requirement. Courses in **BOLD** must be taken in the semester designated. Although other courses listed are not required to be completed in the designated sequence, the recommendations noted below are preferred.

## International Business B.S.I.B. with Retail Concentration

### Eight-Semester Degree Program

Students who wish to pursue the eight-semester degree program should see the Eight-Semester Degree Policy for requirements of the program.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2053 Finite Mathematics (Sp, Su, Fa)		3
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)*		3
WCOB 1111 Freshman Business Connection (Fa)	1	
BLAW 2013 The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa)**		3
ISYS 1120 Computer Competency Requirement (Sp, Su, Fa)		0
Intermediate World Language (2003/2013 level or higher)		3
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
ACCT 2013 Accounting Principles (Sp, Su, Fa)		3
WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa)		3
ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)		3
Foreign Language (3000 level or higher)		3
Year Total:	16	15

Second Year	Units	
	Fall	Spring
MGMT 2053 Business Foundations (Sp, Su, Fa) or ACCT 2023 Accounting Principles II (Sp, Su, Fa)	3	
ISYS 2103 Business Information Systems (Sp, Su, Fa)**		3
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)***		3
U.S. History or Political Science (University Core)		3
Foreign Language (3000 level or higher)		3
SCMT 2103 Introduction to Supply Chain Management (Sp, Fa)**		3
MGMT 2103 Managing People and Organizations (Sp, Su, Fa)**		3
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)***		3
Fine Art/Humanities (University Core)		3
Natural Science (University Core)		4
All pre-business requirements should be met by end of term		
Year Total:	15	16

Third Year	Units	
	Fall	Spring
FINN 3043 Principles of Finance (Sp, Su, Fa)**	3	



MKTG 3433 Introduction to Marketing (Sp, Su, Fa)**	3	
ECON 4633 International Trade (Sp, Fa)	3	
International Business and Collateral Elective Social Science (University Core)	3	
MKTG 3553 Consumer Behavior (Sp, Fa)	3	3
MKTG 3633 Marketing Research (Sp, Fa)	3	3
MGMT 3013 Strategic Management (Sp, Su, Fa)	3	3
International Business and Collateral Elective Area Studies Course	3	3
Year Total:	15	15

Fourth Year	Units	
	Fall	Spring
MKTG 4443 Retail Buying and Merchandise (Sp, Fa)	3	
3 hour specified MKTG or SCMT course	3	
ECON 4643 International Macroeconomics and Finance (Sp, Fa)	3	
Area Studies Course	3	
Natural Science (University Core)	4	
MKTG 4433 Retail Strategy (Sp, Fa)		3
3 hour specified MKTG or SCMT course		3
3 hour specified MKTG or SCMT course		3
International Business and Collateral Elective		3
Year Total:	16	12
Total Units in Sequence:		120

\* Must be completed prior to WCOB 1033.

\*\* Must be completed prior to MGMT 3013.

\*\*\* Must be completed prior to taking any 3000 or 4000 level business courses.

### Supply Chain Management Concentration

SCMT 3443 Transportation and Distribution Management (Sp, Fa)	3
SCMT 3613 Supply Management (Sp, Fa)	3
SCMT 3643 International Transportation and Logistics (Sp, Fa)	3
Six hours of Junior/Senior Supply Chain Management Electives	6
Six hours of Junior/Senior Interdisciplinary Electives	6
Total Hours	21

In the eight-semester degree programs of each concentration, the first four semesters are exactly the same. In addition to the coursework listed below, students must complete an International Experience Requirement. Courses in **BOLD** must be taken in the semester designated. Although other courses listed are not required to be completed in the designated sequence, the recommendations noted below are preferred.

### International Business B.S.I.B. with Supply Chain Management Concentration Eight-Semester Degree Program

Students who wish to pursue the eight-semester degree program should see the Eight-Semester Degree Policy (p. 73) for requirements of the program.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2053 Finite Mathematics (Sp, Su, Fa)	3	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)*	3	
WCOB 1111 Freshman Business Connection (Fa)	1	
BLAW 2013 The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa)**	3	
ISYS 1120 Computer Competency Requirement (Sp, Su, Fa)	0	
Intermediate World Language (2003/2013 level or higher)	3	
ENGL 1023		3
WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa)		3
ACCT 2013 Accounting Principles (Sp, Su, Fa)		3
ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)		3
Foreign Language (3000 level or higher)		3
Year Total:	16	15

Second Year	Units	
	Fall	Spring
MGMT 2053 Business Foundations (Sp, Su, Fa) or ACCT 2023 Accounting Principles II (Sp, Su, Fa)	3	
ISYS 2103 Business Information Systems (Sp, Su, Fa)**	3	
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)***	3	
U.S. History or Political Science (University Core)	3	
Foreign Language Course (3000 level or higher)	3	
SCMT 2103 Introduction to Supply Chain Management (Sp, Fa)		3
MGMT 2103 Managing People and Organizations (Sp, Su, Fa)**		3
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)***		3
Fine Art/Humanities courses (University Core)		3
Natural Science (University Core)		4
ALL pre-business requirements should be met by end of term		
Year Total:	15	16

Third Year	Units	
	Fall	Spring
FINN 3043 Principles of Finance (Sp, Su, Fa)**	3	

MKTG 3433 Introduction to Marketing (Sp, Su, Fa)**	3	
SCMT 3613 Supply Management (Sp, Fa)	3	
International Business and Collateral Elective	3	
SCMT 3443 Transportation and Distribution Management (Sp, Fa)		3
SCMT 3643 International Transportation and Logistics (Sp, Fa)		3
MGMT 3013 Strategic Management (Sp, Su, Fa)		3
ECON 4633 International Trade (Sp, Fa)		3
Social Science – University Core		3
Year Total:	12	15

Fourth Year	Units	
	Fall	Spring
SCMT Elective	3	
ECON 4643 International Macroeconomics and Finance (Sp, Fa)	3	
International Business and Collateral Elective	3	
Area Studies Course	3	
Natural Science – University Core	4	
SCMT Elective		3
Area Studies Course		3
International Business and Collateral Elective		3
Junior/Senior Business Electives		6
Year Total:	16	15

Total Units in Sequence: 120

- \* Must be completed prior to WCOB 1033.
- \*\* Must be completed prior to MGMT 3013.
- \*\*\* Must be completed prior to taking any 3000 or 4000 level business courses.

## International Business Minor for Business Students

The Walton College offers a minor for students desiring more knowledge in international programs to assist them with their business careers. The minor requires completion of 21 required hours of study (including equivalencies). The 21 hours include the following courses:

Select seven of the following: 21

ECON 3843	Economic Development, Poverty & the Role of the World Bank and IMF in Low-Income Countries (Sp, Fa)
ECON 3853	Emerging Markets (Fa)
ECON 3933	The Japanese Economic System (Sp)
ECON 4633	International Trade (Sp, Fa)
ECON 4643	International Macroeconomics and Finance (Sp, Fa)
ECON 468V	International Economics and Business Seminar (Irregular)
FINN 3703	International Finance (Sp, Su, Fa)
MGMT 4583	International Management (Sp, Fa)
MKTG 4633	Global Marketing (Sp, Fa)

3 hours of Study Abroad led by Walton College faculty

SCMT 3643	International Transportation and Logistics (Sp, Fa)	
Other – Department Chair approval needed		
<hr/>		
Total Hours		21

Students must also complete six hours of intermediate foreign language. Students whose native language is English or whose native language is not taught at the University of Arkansas must complete six hours of university course work in a single foreign language. Students who, on the basis of prior knowledge of language, omit one or both courses in the intermediate language sequence — at 2003 and 2013 level — may receive degree credit for omitted courses if they validate their higher placement by passing the business language course (or equivalent) with a grade of “C” or above. Students with no previous foreign language training or only rudimentary knowledge of a foreign language will be required to complete up to six hours of elementary foreign language. Students whose native language is not English but is taught at the University of Arkansas must select a third language from the list below, or substitute six hours of upper-division English language courses (i.e., speech, writing, or U.S. literature), to be selected with the consent of the department chair. Those students whose native language is not taught at the University of Arkansas will normally be required to select a third language.

Students may select from one of the following language tracks:

<b>Arabic</b>		
ARAB 2016	Intensive Arabic II (Sp)	6
<b>Chinese</b>		
CHIN 2003	Intermediate Chinese I (Fa)	3
CHIN 2013	Intermediate Chinese II (Sp)	3
<b>French</b>		
FREN 2003	Intermediate French I (ACTS Equivalency = FREN 2013) (Sp, Fa)	3
FREN 2013	Intermediate French II (ACTS Equivalency = FREN 2023) (Sp, Fa)	3
	or FREN 2013FHonors Intermediate French II (Sp, Fa)	
<b>German</b>		
GERM 2003	Intermediate German I (ACTS Equivalency = GERM 2013) (Sp, Su, Fa)	3
GERM 2013	Intermediate German II (ACTS Equivalency = GERM 2023) (Sp, Su, Fa)	3
<b>Italian</b>		
ITAL 2003	Intermediate Italian I (Fa)	3
ITAL 2013	Intermediate Italian II (Sp)	3
<b>Japanese</b>		
JAPN 2003	Intermediate Japanese I (Fa)	3
JAPN 2013	Intermediate Japanese II (Sp)	3
	or JAPN 2013HHonors Intermediate Japanese II (Sp)	
<b>Russian</b>		
RUSS 2003	Intermediate Russian I (Fa)	3
RUSS 2013	Intermediate Russian II (Sp)	3
<b>Spanish</b>		
SPAN 2003	Intermediate Spanish I (ACTS Equivalency = SPAN 2013) (Sp, Fa)	3
SPAN 2013	Intermediate Spanish II (ACTS Equivalency = SPAN 2023) (Sp, Fa)	3

**Swahili**

SWAH 2003	Intermediate Swahili I (Irregular)	3
SWAH 2013	Intermediate Swahili II (Irregular)	3

Students who desire to earn an International Business minor must notify the Walton College Undergraduate Programs Office of their intent to pursue a minor. All requirements for the minor must be completed prior to the awarding of the student's undergraduate degree. All specific course prerequisites must be met. Each student must have a 2.00 cumulative grade-point average in the courses offered for the minor. All upper level minor requirements must be taken in residence.

## Accounting (ACCT)

### Faculty

**Kristian Allen**, Associate Professor

**T. J. Atwood**, Associate Professor

**Ken Bills**, Associate Professor

**Cory A. Cassell**, Associate Professor, Ralph McQueen Distinguished Chair in Accounting

**Corey Coston**, Instructor

**Michael Crawley**, Assistant Professor

**Cynthia Daily**, Clinical Associate Professor

**Jason Fowler**, Instructor

**Mandy French**, Instructor

**William Karl Greenhaw**, Instructor

**Robyn Jarnagin**, Visiting Assistant Professor

**Sami Keskek**, Assistant Professor

**Allee Kristian**, Associate Professor, Garrison/Wilson Chair in Accounting

**Charles Joseph Leflar**, Clinical Professor, BKD Lectureship in Accounting

**John Martel Norwood**, Professor, Nolan E. Williams Lecturer in Accounting

**Gary F. Peters**, Professor, G. William Glezen Endowed Chair in Accounting

**Kim Petrone**, Instructor

**Karen V. Pincus**, Professor, Doyle Z. and Maynette Derr Williams Chair in Professional Accounting

**Vernon J. Richardson**, Distinguished Professor, S. Robson Walton Chair in Accounting

**Stephen Rowe**, Assistant Professor

**Jonathan Shipman**, Assistant Professor

**Katie Terrell**, Instructor

**JaLynn D. Thomas**, Instructor

Gary Peters

Department Chair, 401 WCOB, 479-575-4051

Accounting Department Website (<https://accounting.uark.edu>)

The mission of the department of accounting is to cultivate an environment of educational excellence. We do so by pursuing the following endeavors:

- Providing a learning environment in which students interact with others to identify and solve accounting and business problems.
- Developing and disseminating knowledge that has the potential for significant impact on accounting, business, and education.
- Interacting with the accounting profession, the business and academic communities, and the community at large.

The department of accounting offers an undergraduate degree program in accounting and graduate programs at both the master's and doctoral

levels. The department's programs are accredited by the AACSB – The International Association for Management Education, which ensures quality and promotes excellence and continuous improvement in undergraduate and graduate education. In addition, the accounting department offers courses in Business Law.

The objective of the B.S.B.A. accounting curriculum is to provide students with a broad overall education, solid grounding in the common body of knowledge of business administration, and exposure to accounting in sufficient depth to help them achieve entry-level competence for pursuit of a career in industry. The department also offers a five-year integrated program approach to receive the Master of Accountancy degree, which leads to the simultaneous award of the B.S.B.A. and the Master of Accountancy degrees. The integrated program is designed for students who wish to concentrate in accounting and obtain education in an accounting specialization. The objective of the integrated program is to provide students with advanced knowledge of accounting and business topics in order to obtain an accelerated position in accounting or help them launch a career in public accounting. Those students who are not accepted into the integrated program or choose not to enroll in the integrated program will be allowed to graduate with a B.S.B.A. upon successful completion of the B.S.B.A. degree requirements and Accounting Major Requirements detailed below.

### Accounting Major Requirements

#### Course Requirements in the Major

24

ACCT 3533	Accounting Technology (Sp, Fa)
ACCT 3723	Intermediate Accounting I (Sp, Fa)
ACCT 3753	Intermediate Accounting II (Sp)
ACCT 3843	Fundamentals of Taxation I (Sp, Fa)
ACCT 4203	Fundamentals of Taxation II (Sp, Fa)
ACCT 4673	Product, Project and Service Costing (Fa)
ACCT 4753	Intermediate Accounting III
ACCT 4963	Audit and Assurance Services (Sp)

Maximum of 30 hours of ACCT courses in department (core, major, elective). More than 30 hours allowed if the extra courses are part of interdisciplinary minor or collateral track.

Total Hours

24

### Junior/Senior Business Electives (12 hours)

Selection of electives should be made in consultation with academic advisers. Students planning on taking professional examinations should ascertain course requirements by examining authorities. Successful completion of a Master of Accountancy Degree from the University of Arkansas will qualify a student to take the CPA examination in Arkansas. B.S.B.A. graduates would need additional accounting hours and other courses amounting to a total of 150 semester hours to sit for the CPA exam in Arkansas.

The following courses are highly recommended to satisfy the junior/senior business elective requirement: ACCT 310V, ACCT 410V, ACCT 4003H, FINN 3013, FINN 3103, FINN 3703, ISYS 4213 or any 3-hour Walton College Study Abroad Course. Students in the online program are encouraged to complete ACCT 310V, FINN 3013, ISYS 4213, or any 3-hour Walton College Study Abroad Course. No more than six hours of accounting may be in the major.

Accounting Students are encouraged to utilize ACCT 310V in the Spring of Year 4 for Internship Credit as a business elective (in combination with compressed sections of ACCT 4673 and ACCT 4963). To do so requires

the student to defer 3 credit hours of General Education electives to an alternative Fall, Spring, or Summer semester. This also strengthens the ability of the student to transition into the Masters of Accounting Program.

## Accounting B.S.B.A. Eight-Semester Degree Program:

Students wishing to follow the eight-semester degree plan should see the Eight Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program.

Courses in **BOLD** must be taken in the designated semester. Courses in *ITALIC* may be taken in varied sequences as long as other designated requirements for these courses are met. Although other courses listed are not required to be completed in the designated sequence, the recommendations below are preferred.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2053 Finite Mathematics (Sp, Su, Fa)	3	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3	
WCOB 1111 Freshman Business Connection (Fa)	1	
BLAW 2013 The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa) <sup>1</sup>	3	
ISYS 1120 Computer Competency Requirement (Sp, Su, Fa)	0	
U.S. History or Political Science– University Core	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
ACCT 2013 Accounting Principles (Sp, Su, Fa)		3
WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa)		3
ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)		3
Natural Science – University Core		4
Year Total:	16	16

Second Year	Units	
	Fall	Spring
ACCT 2023 Accounting Principles II (Sp, Su, Fa)	3	
ISYS 2103 Business Information Systems (Sp, Su, Fa) <sup>1</sup>	3	
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) <sup>2</sup>	3	
Social Science – University Core	3	
Fine Art/Humanities – University Core	3	
SCMT 2103 Introduction to Supply Chain Management (Sp, Fa)		3
MGMT 2103 Managing People and Organizations (Sp, Su, Fa) <sup>1</sup>		3
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa) <sup>2</sup>		3
Fine Art/Humanities – University Core		3
Natural Science – University Core		4

ALL pre-business requirements should be met by end of term

Year Total: 15 16

Third Year	Units	
	Fall	Spring
FINN 3043 Principles of Finance (Sp, Su, Fa) <sup>1</sup>	3	
MKTG 3433 Introduction to Marketing (Sp, Su, Fa) <sup>1</sup>	3	
ACCT 3533 Accounting Technology (Sp, Fa)	3	
ACCT 3723 Intermediate Accounting I (Sp, Fa)	3	
General Education Electives	3	
ACCT 3843 Fundamentals of Taxation I (Sp, Fa)		3
ACCT 3753 Intermediate Accounting II (Sp)		3
MGMT 3013 Strategic Management (Sp, Su, Fa)		3
Junior/Senior Business Elective		3
General Education Electives		3
Year Total:	15	15

Fourth Year	Units	
	Fall	Spring
ACCT 4203 Fundamentals of Taxation II (Sp, Fa)	3	
ACCT 4753 Intermediate Accounting III (Sp, Fa)	3	
Junior/Senior Business Electives	6	
General Education Electives	3	
ACCT 4673 Product, Project and Service Costing (Fa)		3
ACCT 4963 Audit and Assurance Services (Sp)		3
General Education Electives		3
Junior/Senior Business Electives		3
Year Total:	15	12
Total Units in Sequence:		120

<sup>1</sup> Must be completed prior to MGMT 3013.

<sup>2</sup> Must be completed prior to taking any 3000 or 4000 level business courses.

Students are encouraged to take the following courses to satisfy the junior/senior business elective requirement: ACCT 310V, ACCT 410V, ACCT 4003H, FINN 3013, FINN 3103, FINN 3703, ISYS 4213 or any 3-hour Walton College Study Abroad Course. No more than six hours of accounting may be in the major.

Accounting Students are encouraged to utilize ACCT 310V in the Spring of Year 4 for Internship Credit as a business elective (in combination with compressed sections of ACCT 4673 and ACCT 4963). To do so requires the student to defer 3 credit hours of General Education electives to an alternative Fall, Spring, or Summer semester. This also strengthens the ability of the student to transition into the Masters of Accounting Program.

## Accounting Minor for Business Students

The Department of Accounting offers a minor for Walton College students desiring more knowledge of accounting to assist them in their business careers. The minor requires the completion of 15 specific hours of study

with all of the upper division courses applied toward the minor taken in residence. The 15 hours include the following courses:

ACCT 3723	Intermediate Accounting I (Sp, Fa)	3
ACCT 3753	Intermediate Accounting II (Sp)	3
ACCT 3843	Fundamentals of Taxation I (Sp, Fa)	3
Choose two of the following four courses:		6
ACCT 3533	Accounting Technology (Sp, Fa)	
ACCT 4673	Product, Project and Service Costing (Fa)	
ACCT 4753	Intermediate Accounting III	
ACCT 4963	Audit and Assurance Services (Sp)	

Students who desire to earn an Accounting minor must notify the Walton College Undergraduate Programs Office of intent to pursue a minor. All requirements for the minor must be completed prior to the awarding of the student's undergraduate degree. All specific course prerequisites must be met. Each student must have a 2.00 cumulative grade-point average in the courses offered for the minor. All upper level minor requirements must be taken in residence.

## B.S.B.A./M.Acc.: Integrated Program

Integrated B.S.B.A./M.Acc. Program Website (<https://gsb.uark.edu/accounting-masters-degree/integrated-macc.php>)

The integrated program to the Master of Accountancy is a five-year program of undergraduate and graduate coursework that allows outstanding students to earn the B.S.B.A. and the Master of Accountancy (M.Acc.) degrees at the same time. The professional curriculum, which usually begins in the student's junior year, includes specially designed accounting courses taught in relatively small classes by full-time faculty members. Students accepted into the integrated degree program may concurrently enroll in undergraduate and graduate level courses.

Because M.Acc. graduates are expected to become leaders in the accounting profession, highly motivated students with the personal qualities and intellectual capacity to establish successful careers in public accounting, industry, not-for-profit organizations, and higher education are encouraged to apply.

## Admission

Students are admitted to the integrated program according to the following requirements. Admission is granted only for the fall semester; February 15 of the Junior year is the application deadline for those who wish to begin the integrated program the following fall. Students interested in this program must have completed 90 credit hours of study towards the baccalaureate degree (including ACCT 2013, ACCT 3723 and ACCT 3843) by the February 15 deadline.

Acceptance into the integrated program is based upon the discretion of the admissions committee. The committee considers the overall quality of the applications, including the overall grade point average, the grades in ACCT 2013, ACCT 3723 and ACCT 3843, and the Graduate Management Admission Test (GMAT), as well as other relevant examples of academic ability and leadership. To receive serious consideration by the admissions committee, a student should have a minimum GPA of 3.0 within the applicant's overall university and accounting coursework. Due to the demand for seats in the program, the admissions committee selectively restricts admission into the program based upon the availability of instructional resources. Students must complete at least two long-session semesters in residence in the M.Acc. program.

Transfer students will be handled on a case-by-case basis.

## Satisfactory Progress

Students are expected to make continuous progress toward the degree by completing required accounting coursework each semester. Students who fail to meet the requirements for the M.Acc. program must choose another major of study or finalize their B.S.B.A. in Accounting. Students will be notified before this action is taken and should meet with an academic advisor in the Undergraduate Programs Office upon notification.

## Probation

A student is placed on probation if his or her grade point average in core undergraduate accounting courses falls below 3.00. Except with the consent of the M.Acc. Program Director a student on probation may not take graduate accounting courses.

## Graduation

To receive an integrated B.S.B.A./M.Acc. degree, a student must have a grade point average of at least 3.00 in all coursework taken as part of the minimum thirty hour M.Acc. degree. He or she must also have a grade point average in graduate accounting coursework of at least 3.00.

## Degree Requirements

The requirements of B.S.B.A./M.Acc. Integrated program are:

- Undergraduate coursework
  - Complete the requirements for the B.S.B.A. degree requirements and Accounting Major Requirements detailed above.
  - Students are strongly encouraged, but not required, to participate in an accounting internship, ACCT 310V.
- Graduate coursework

Students with appropriate backgrounds in business administration and economics and with an undergraduate concentration in accounting will be required to complete 30 semester hours of course work beyond the baccalaureate degree, at least 21 semester hours of which must be in courses reserved exclusively for graduate students..

All students must be enrolled for a minimum of 12 hours during consecutive fall/spring semesters. The student must be in residence a minimum of 24 weeks (see residency requirements of the Master of Arts/Master of Science).

A minimum of 18 semester hours of accounting are required, 12 hours of which are specified:

ACCT 5413	Advanced Financial Accounting (Sp)	3
ACCT 5433	Fraud Prevention and Detection (Sp)	3
ACCT 5953	Auditing Standards (Fa)	3
ACCT 5873	Advanced Taxation (Fa)	3

A minimum of six semester hours of the student's graduate program must be non-accounting electives.

The M.Acc. degree program does not require a thesis. Successful completion of integrated B.S.B.A./M.Acc program from the University of Arkansas will qualify a student to take relevant professional examinations.

For further information, write to the M.Acc. Adviser, Department of Accounting, Walton College of Business, University of Arkansas,

Fayetteville, AR 72701 or contact the Graduate School of Business at gsb@walton.uark.edu.

## Economics (ECON)

### Faculty

**Andrew P. Brownback**, Assistant Professor

**Andrea Civelli**, Associate Professor

**Robert M. Costrell**, Professor, Endowed Chair in Education  
Accountability

**William P. Curington**, Professor

**Abel Embaye**, Clinical Assistant Professor

**Amy Lynn Farmer**, University Professor, Margaret Gerig and R.S. Martin  
Jr. Chair in Business

**Gary D. Ferrier**, University Professor, Lewis E. Epley Jr. Professorship in  
Economics

**Arya Gaduh**, Assistant Professor

**David E. Gay**, University Professor

**Difei Geng**, Assistant Professor

**Jingping Gu**, Associate Professor

**Li Hao**, Assistant Professor

**Andrew W. Horowitz**, Professor

**Arva Jaduh**, Assistant Professor

**Raja Kali**, Professor, ConocoPhillips Chair in International Education

**Dongva Koh**, Assistant Professor

**Dou Young Lee**, Visiting Instructor

**Peter J. McGee**, Assistant Professor

**Muhammad Saifur Rahman**, Clinical Assistant Professor

**Robert Bruce Stapp**, Clinical Professor

**Julie R. Trivitt**, Clinical Associate Professor

William P. Curington

Department Chair, 402 WCOB, 479-575-ECON (3266)

Economics Department Website (<https://economics.uark.edu>)

The department of economics offers two concentrations within the business economics major:

1. Business Economics
2. International Economics and Business.

The concentration in business economics is intended for those students who are interested primarily in business, but at the same time have a desire to understand the more advanced tools of economic analysis. Such a background is excellent preparation for careers in corporate research and planning, as well as careers with government and regulatory agencies, for graduate study in business and economics, and for law school. Students who want to pursue an advanced degree in business economics can, with appropriate planning, complete a master's degree at the University of Arkansas within 12 months after receiving a B.S.B.A. degree. Please see the economics department chair for more information.

The international economics and business concentration is intended for students who wish to learn more about the international aspects of economics and business. It provides preparation for a broad range of careers in business, including management, marketing, and finance.

It is strongly recommended that economics majors who plan to continue their studies at the graduate level take at least two semesters of calculus (MATH 2554 and MATH 2564) and linear algebra (MATH 3083). These courses will substitute for the math courses required within Walton College core (MATH 2043 and MATH 2053).

## Economics Minors for Business Students

The Department of Economics offers two minors for Walton College students desiring more knowledge of economics to assist them in their business careers. The minors require completion of 15 hours of study and all of the upper division courses applied toward the minor must be taken in residence.

## Business Economics Concentration

The major in Business Economics requires 21 hours of major and collateral courses in the discipline as well as satisfying the other requirements for the B.S.B.A. degree. A maximum of 27 hours is allowed in a WCOB major or discipline field of study (i.e., core, major, electives) unless the extra courses are part of an interdisciplinary minor or collateral track. See an adviser for selection of courses.

The courses required for the business economics concentration include those required in Walton College and Fulbright College. In addition, 15 hours of specified courses (listed below) are required:

Major Course Requirements in the concentration		21
ECON 3033	Microeconomic Theory (Sp, Su, Fa)	
ECON 3133	Macroeconomic Theory (Sp, Fa)	
ECON 4333	Economics of Organizations (Fa)	
ECON 4743	Introduction to Econometrics (Sp)	
	or ECON 4753 Forecasting (Fa)	
Nine hours of ECON 3000/4000		
Maximum of 27 hours of ECON courses in department (core, major, elective). More than 27 hours allowed if the extra courses are part of interdisciplinary minor or collateral track.		
Total Hours		21

Junior/Senior Business Electives (15 hours)

## Economics B.S.B.A. with Business Economics Concentration Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program.

Courses in **BOLD** must be taken in the designated semester. Courses in *ITALIC* may be taken in varied sequences as long as other designated requirements for these course are met. Although other courses listed are not required to be completed in the designated sequence, the recommendations below are preferred.

First Year	Units	
	Fall	Spring
<b>ENGL 1013</b> Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
<b>MATH 2053</b> Finite Mathematics (Sp, Su, Fa)	3	
<b>COMM 1313</b> Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3	
<b>WCOB 1111</b> Freshman Business Connection (Fa)	1	
<b>BLAW 2013</b> The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa) <sup>1</sup>	3	
<b>ISYS 1120</b> Computer Competency Requirement (Sp, Su, Fa)	0	

U.S. History or Political Science-University Core	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
ACCT 2013 Accounting Principles (Sp, Su, Fa)		3
WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa)		3
ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)		3
Natural Science – University Core		4
Year Total:	16	16

Second Year	Units	
	Fall	Spring
MGMT 2053 Business Foundations (Sp, Su, Fa) or ACCT 2023 Accounting Principles II (Sp, Su, Fa)	3	
ISYS 2103 Business Information Systems (Sp, Su, Fa) <sup>1</sup>	3	
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) <sup>2</sup>	3	
Social Science – University Core	3	
Fine Art/Humanities – University Core	3	
SCMT 2103 Introduction to Supply Chain Management (Sp, Fa) <sup>1</sup>		3
MGMT 2103 Managing People and Organizations (Sp, Su, Fa) <sup>1</sup>		3
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa) <sup>2</sup>		3
Fine Art/Humanities – University Core		3
Natural Science – University Core		4
ALL pre-business requirements should be met by end of term		
Year Total:	15	16

Third Year	Units	
	Fall	Spring
FINN 3043 Principles of Finance (Sp, Su, Fa) <sup>1</sup>	3	
MKTG 3433 Introduction to Marketing (Sp, Su, Fa) <sup>1</sup>	3	
ECON 3033 Microeconomic Theory (Sp, Su, Fa)	3	
ECON Elective	3	
Junior Senior Business Elective	3	
ECON 3133 Macroeconomic Theory (Sp, Fa)		3
ECON 4743 Introduction to Econometrics (Sp) or ECON 4753 Forecasting (Fa)		3
MGMT 3013 Strategic Management (Sp, Su, Fa)		3
Junior/Senior Business Electives		6
General Education Elective		3
Year Total:	15	18

Fourth Year	Units	
	Fall	Spring
ECON 4333 Economics of Organizations (Fa)	3	
ECON Elective	3	
Junior/Senior Business Elective	3	

General Education Electives	6	
ECON Elective		3
Junior/Senior Business Electives		6
General Education Electives		3
Year Total:	15	12

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Total Units in Sequence: 123

<sup>1</sup> Must be completed prior to MGMT 3013.

<sup>2</sup> Must be completed prior to taking any 3000 or 4000 level business courses.

## International Economics and Business Concentration

The major in International Economics requires 21 hours of major and collateral courses in the discipline as well as satisfying the other requirements for the B.S.B.A. degree. A maximum of 27 hours is allowed in the Economics major or discipline field of study (i.e., core, major, electives) unless the extra course is part of an interdisciplinary minor or collateral track. See an adviser for selection of courses. The courses required for the international economics and business concentration include those required in Walton College and Fulbright College. In addition, 21 hours of economics and business courses, nine hours of a single foreign language, and six hours at the 3000 level or higher in the same foreign language are specified, and six hours of upper division courses in the Fulbright College in an area of study related to the foreign language studied.

### Major Course Requirements in the Concentration 21

ECON 3033	Microeconomic Theory (Sp, Su, Fa)	
ECON 3133	Macroeconomic Theory (Sp, Fa)	
ECON 4633	International Trade (Sp, Fa)	
ECON 4643	International Macroeconomics and Finance (Sp, Fa)	
3 hours ECON Elective or Collateral Courses		
Select two classes (six hours) from the following:		
FINN 3703	International Finance (Sp, Su, Fa)	
ECON 3843	Economic Development, Poverty & the Role of the World Bank and IMF in Low-Income Countries (Sp, Fa)	
ECON 3853	Emerging Markets (Fa)	
ECON 3933	The Japanese Economic System (Sp)	
Other courses may fulfill this requirement as approved by the Department Chair		
Total Hours		21

Junior/Senior Business Electives (15 hours)

### Foreign Language Requirements (9 Hours)

Students whose native language is English or whose native language is not taught at the University of Arkansas must complete nine hours of university course work in a single foreign language — three hours of intermediate language and six hours of 3000 level or higher. Students who, on the basis of prior knowledge of language, may receive degree credit for courses if they validate their higher placement by passing the business language course (or equivalent) with a grade of "C" or above. Students with no previous foreign language training or only rudimentary

knowledge of a foreign language will be required to complete up to six hours of elementary language — at 1003 and 1013 level — in addition to the hours of language specified above.

Students may select one of the following language tracks:

#### Arabic

ARAB 2013	Intermediate Arabic II (Irregular)	3
ARAB 2016	Intensive Arabic II (Sp)	6
ARAB 3016	Intensive Arabic III (Fa)	6

#### Chinese

CHIN 2003	Intermediate Chinese I (Fa)	3
CHIN 2013	Intermediate Chinese II (Sp)	3
CHIN 3033	Conversation (Sp)	3

And any other upper division CHIN

#### French

FREN 2003	Intermediate French I (ACTS Equivalency = FREN 2013) (Sp, Fa)	3
FREN 2013	Intermediate French II (ACTS Equivalency = FREN 2023) (Sp, Fa)	3
FREN 4333	Introduction to Business French (Irregular)	3
FREN 3033	French Conversation (Fa)	3
or FREN 3003	Advanced French (Sp, Su, Fa)	

#### German

GERM 2003	Intermediate German I (ACTS Equivalency = GERM 2013) (Sp, Su, Fa)	3
GERM 2013	Intermediate German II (ACTS Equivalency = GERM 2023) (Sp, Su, Fa)	3
GERM 3003	Advanced German I (Fa)	3
GERM 4333	Business German I (Fa)	3

#### Italian

ITAL 2003	Intermediate Italian I (Fa)	3
ITAL 2013	Intermediate Italian II (Sp)	3

#### Japanese

JAPN 2003	Intermediate Japanese I (Fa)	3
JAPN 2013	Intermediate Japanese II (Sp)	3
JAPN 3003	Advanced Japanese I (Irregular)	3
JAPN 3013	Advanced Japanese II (Irregular)	3

#### Spanish

SPAN 2003	Intermediate Spanish I (ACTS Equivalency = SPAN 2013) (Sp, Fa)	3
SPAN 2013	Intermediate Spanish II (ACTS Equivalency = SPAN 2023) (Sp, Fa)	3
SPAN 3003	Advanced Spanish (Sp, Fa)	3
SPAN 4333	Business Spanish I (Sp, Fa)	3

Students whose native language is not English but is taught at the University of Arkansas must select a third language from the list above, or substitute six hours of upper-division English language courses (i.e., speech, writing, or U.S. literature), to be selected with the consent of the department chair. Those students whose native language is not taught at the University of Arkansas will normally be required to select a third language.

#### Area Studies Requirements (6 Hours)

For students taking a foreign language, six hours of upper-division course work in the J. William Fulbright College of Arts and Sciences are required. Domestic students can satisfy this requirement in one of three ways:

1. Any upper division foreign language course,
2. Minor in a foreign language, and/or
3. Select upper division courses related to the foreign language to include:
  - Arabic – any upper division course for Middle Eastern Studies (MEST) to include MEST 4003, MEST 4003H or additional courses listed under MEST in the university catalog.
  - Chinese/Japanese/Asian Studies – any upper division course for Asian Studies (AIST)
  - French – any upper division course for EUST
  - German – any upper division course for EUST
  - Italian – any upper division course for EUST
  - Spanish – any upper division course for Latin American Studies (LAST) or European Studies (EUST) to include LAST 4003, LAST 4003H, or additional courses listed under LAST in the university catalog, or EUST 399VH, EUST 4003, EUST 4003H, EUST 470V, or EUST 470VH or additional courses listed under EUST in the University catalog.

International students may satisfy this requirement in one of two ways:

1. For students who choose to take a third language, area studies requirements are the same as those for domestic students.
2. For students who choose to take six hours of upper division English to satisfy their language requirement, six hours of upper division course work in the J. William Fulbright College of Arts and Sciences pertaining to the United States to include any upper division course in American Studies (AMST) listed in the university catalog.

Maximum of 27 hours of ECON courses in department (core, major, elective). More than 27 hours allowed if the extra courses are part of interdisciplinary minor or collateral track.

### Economics B.A. with Emphasis in International Economics and Business Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for University requirements of the program.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2053 Finite Mathematics (Sp, Su, Fa) or MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)		3
1013 Elementary II World Language course		3
University/state core US history requirement		3
ISYS 1120 Computer Competency Requirement (Sp, Su, Fa)		0
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)		3
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3



MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) <sup>1</sup> or MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa)	3	
ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa) <sup>1</sup>	3	
ACCT 2013 Accounting Principles (Sp, Su, Fa)	3	
2003 Intermediate I World Language course	3	
Year Total:	15	15

Second Year	Units	
	Fall	Spring
2013 Intermediate II World Language Course	3	
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa) <sup>1</sup>	3	
WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa) or STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)	3	
ACCT 2023 Accounting Principles II (Sp, Su, Fa) or MGMT 2053 Business Foundations (Sp, Su, Fa)	3	
General Elective	3	
Advanced Level Elective <sup>1</sup>		3
ECON 3033 Microeconomic Theory (Sp, Su, Fa) <sup>1,2</sup> or ECON 3133 Macroeconomic Theory (Sp, Fa)		3
Upper Division World Language <sup>1,2</sup>		3
University/State Core Fine Arts or Humanities requirement		3
University/State Core Social Science requirement (non-ECON course)		3
Year Total:	15	15

Third Year	Units	
	Fall	Spring
ECON 3133 Macroeconomic Theory (Sp, Fa) (as needed) <sup>1,2</sup> or ECON 3033 Microeconomic Theory (Sp, Su, Fa)	3	
Upper Division World Language <sup>1,2</sup>	3	
University/state core Humanities or Fine Arts requirement	3	
Science University/State Core Lecture with Corequisite Lab requirement	4	
General Elective	3	
ECON 4633 International Trade (Sp, Fa) <sup>1,2</sup> International Economics and Business Elective <sup>1</sup>		3
Upper Division Foreign Language or 3000+ Fulbright College elective <sup>1,2</sup>		3
Upper Level Area Studies from ARSC <sup>1,2</sup>		3
Science University/State Core Lecture with Corequisite Lab requirement		4
Year Total:	16	16

Fourth Year	Units	
	Fall	Spring
ECON 4643 International Macroeconomics and Finance (Sp, Fa) <sup>1,2</sup>	3	
International Economics and Business Elective <sup>1</sup>	3	
International Economics and Business Elective <sup>1</sup>	3	
Upper Level Area Studies from ARSC <sup>1,2</sup>	3	
General Electives	3	
International Economics and Business Elective <sup>1</sup>		3
Upper Level Area Studies from ARSC <sup>1,2</sup>		3
General Electives (as needed to total 120 degree hours)		7
Year Total:	15	13

Total Units in Sequence: 120

<sup>1</sup> Meets 40-hour advanced credit hour requirement. See College Academic Regulations (p. 183).

<sup>2</sup> Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations (p. 183).

## Economics Minor

The minor in Economics requires completion of 15 hours of study:

ECON 2013	Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)	3
ECON 2023	Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)	3
Plus nine hours of upper division course work in economics		9
Total Hours		15

## Behavioral Economics Minor

ECON 2013	Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)	3
ECON 2023	Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)	3
ECON 4423	Behavioral Economics (Sp)	3
ECON 4433	Experimental Economics (Fa)	3
Plus one of the following:		
ECON 3033	Microeconomic Theory (Sp, Su, Fa) or ECON 4743 Introduction to Econometrics (Sp)	3
Total Hours		15

Students who desire to earn an Economics minor must notify the Walton College Undergraduate Programs Office of their intent to pursue a minor. All requirements for the minor must be completed prior to the awarding of the student's undergraduate degree. All specific course prerequisites must be met. Each student must have a 2.00 cumulative grade-point average in the courses offered for the minor. All upper level minor requirements must be taken in residence.

## Finance (FINN)

### Faculty

**John Andrew Dominick**, Professor, J.W. Bellamy Chair of Banking and Finance

**Nelson G. Driver**, Instructor  
**Douglas P. Hearth**, Associate Professor  
**Hung-Chia Scott Hsu**, Assistant Professor  
**Tomas Jandik**, Professor, Dillard Chair in Corporate Finance  
**Wayne Y. Lee**, Professor, Alice L. Walton Chair in Finance, Garrison Chair in Finance  
**Pu Liu**, Professor, Harold Dulan Chair in Capital Formation, Robert E. Kennedy Chair in Finance  
**Alexey Malakhov**, Associate Professor, Edward W. Reed Endowed Professorship in Finance  
**Noel Morris**, Instructor  
**Craig Rennie**, Associate Professor, Clete and Tammy Brewer Professorship in Business  
**Timothy B. Riley**, Assistant Professor  
**Mark E. Risk**, Instructor  
**Yingying Shao**, Visiting Associate Professor  
**Corbitt Stace Sirmans**, Assistant Professor  
**Chris Tompkins III**, Instructor  
**Jim Webster**, Instructor  
**Timothy J. Yeager**, Professor, Arkansas Bankers Association Chair in Banking

Pu Liu  
 Department Chair, 302 WCOB, 479-575-4505  
 Finance Department Website (<https://finance.uark.edu>)

The academic mission of the department of finance is to provide an educational experience that:

- Stimulates student learning through open dialogue and informative discussion both inside and outside the classroom;
- Actively engages students in their own learning through problem-based casework, participation in real-world business activities, and internships in the financial community; and
- Prepares students to successfully meet the rigors of the challenging and diverse career opportunities in finance.

Students who elect to major in finance can choose from one of five concentrations: banking, energy finance, financial management/investment, insurance, and real estate. This choice should reflect the student's primary career focus and electives should be used to complement the coursework in the chosen concentration. Careers in finance that are analytically oriented will generally require proficiency in accounting, economics, and quantitative methods. In contrast, careers in finance that are sales or management oriented will generally require marketing and management skills. Finance majors are strongly encouraged to consult with departmental faculty advisers and/or the department chair in developing their curriculum.

## Finance Major with Banking Concentration

### Finance Major Requirements

#### Major Course Requirements

FINN 3013	Financial Analysis (Sp, Su, Fa)	3
FINN 3053	Financial Markets and Institutions (Sp, Su, Fa)	3
FINN 3703	International Finance (Sp, Su, Fa)	3

Maximum of 27 hours of FINN courses in department (core, major, elective). More than 27 hours allowed if the extra courses are part of interdisciplinary minor or collateral track.

<b>Junior/Senior Level Business Electives</b>		12
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<b>Concentration hours</b>	15
Total Hours	36

### Banking Concentration

FINN 3103	Financial Modeling (Sp, Su, Fa)	3
FINN 3133	Commercial Banking (Sp, Fa)	3
FINN 4313	Advanced Commercial Banking (Sp)	3

Any two of the following courses, which are highly recommended, satisfy the 6-credit-hour interdisciplinary requirement in the finance major:

#### Accounting

ACCT 3723	Intermediate Accounting I (Sp, Fa)
ACCT 3753	Intermediate Accounting II (Sp)

#### Economics

ECON 4433	Experimental Economics (Fa)
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#### Information Systems

ISYS 2263	Principles of Information Systems (Sp, Fa)
ISYS 4213	ERP Fundamentals (Sp, Fa)

#### Management

MGMT 3933	Entrepreneurship and New Venture Development (Sp, Fa)
MGMT 4433	Small Enterprise Management (Sp)

#### Marketing

MKTG 3553	Consumer Behavior (Sp, Fa)
MKTG 3633	Marketing Research (Sp, Fa)

#### Supply Chain Management

SCMT 3613	Supply Management (Sp, Fa)
SCMT 3623	Advanced Inventory Management and Forecasting (Sp, Fa)

Total Hours	9
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## Finance B.S.B.A. with Banking Concentration Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program.

Courses in BOLD must be taken in the designated semester. Courses in ITALIC may be taken in varied sequences as long as other designated requirements for these courses are met. Although other courses listed are not required to be completed in the designated sequence, the recommendations below are preferred.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2053 Finite Mathematics (Sp, Su, Fa)		3
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3	
WCOB 1111 Freshman Business Connection (Fa)		1
BLAW 2013 The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa) <sup>1</sup>	3	
ISYS 1120 Computer Competency Requirement (Sp, Su, Fa)		0

U.S. History or Political Science - University Core	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
ACCT 2013 Accounting Principles (Sp, Su, Fa)		3
WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa)		3
ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)		3
Natural Science - University Core		4
Year Total:	16	16

Junior Senior Business Elective		6
General Education Electives		3
Year Total:	12	15
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Total Units in Sequence:		120

- \* Must be completed prior to WCOB 1033.
- \*\* Must be completed prior to MGMT 3013.
- \*\*\* Must be completed prior to taking any 3000 or 4000 level courses.

## Finance Major Requirements

### Major Course Requirements

FINN 3013	Financial Analysis (Sp, Su, Fa)	3
FINN 3053	Financial Markets and Institutions (Sp, Su, Fa)	3
FINN 3703	International Finance (Sp, Su, Fa)	3

Maximum of 27 hours of FINN courses in department (core, major, elective). More than 27 hours allowed if the extra courses are part of interdisciplinary minor or collateral track.

<b>Junior/Senior Level Business Electives</b>	12
<b>Concentration hours</b>	15
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Total Hours	36

## Requirements for Energy Finance Concentration

If a student selects the Energy Finance concentration, they must take ACCT 3723 and ACCT 3753 as junior/senior business electives in their junior year. Energy Finance students will also be involved in management of the David Carter Adams Energy Sector student managed investment fund and will participate in the premiere Energy Risk Professional (ERP) certification program.

Students must also complete GEOS 1133 /GEOS 1131L as a university core requirement and GEOS 4253 as one of their general education electives.

### Required Courses

FINN 3103	Financial Modeling (Sp, Su, Fa)	3
FINN 4173	Energy Finance (Sp, Fa)	3
ACCT 449V	Special Topics in Accounting (Irregular)	3
Choose 6 hours from the following courses:		6
FINN 3063	Investments (Sp, Su, Fa)	
FINN 3603	Corporate Finance (Sp, Su, Fa)	
FINN 4133	Advanced Investments (Sp, Fa)	
FINN 4233	Advanced Corporate Finance (Irregular)	
FINN 3163	Fixed Income Securities I (Fa)	
FINN 3173	Fixed Income Securities II (Sp)	
FINN 4143	Portfolio Management I (Fa)	
FINN 4153	Portfolio Management II (Sp)	

Total Hours	15
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Second Year	Units	
	Fall	Spring
ACCT 2023 Accounting Principles II (Sp, Su, Fa)	3	
ISYS 2103 Business Information Systems (Sp, Su, Fa) <sup>1</sup>	3	
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) <sup>2</sup>	3	
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)	3	
Social Science - University Core	3	
SCMT 2103 Introduction to Supply Chain Management (Sp, Fa)		3
MGMT 2103 Managing People and Organizations (Sp, Su, Fa) <sup>1</sup>		3
FINN 3043 Principles of Finance (Sp, Su, Fa) <sup>1</sup>		3
Fine Arts/Humanities - University Core		3
Natural Science - University Core		4
Year Total:	15	16

Third Year	Units	
	Fall	Spring
MKTG 3433 Introduction to Marketing (Sp, Su, Fa) <sup>1</sup>	3	
FINN 3013 Financial Analysis (Sp, Su, Fa)	3	
FINN 3103 Financial Modeling (Sp, Su, Fa)	3	
Fine Arts/Humanities - University Core	3	
General Education Electives	3	
FINN 3053 Financial Markets and Institutions (Sp, Su, Fa)		3
FINN 3133 Commercial Banking (Sp, Fa)		3
MGMT 3013 Strategic Management (Sp, Su, Fa)		3
Junior Senior Business Electives		3
General Education Electives		3
Year Total:	15	15

Fourth Year	Units	
	Fall	Spring
FINN 3703 International Finance (Sp, Su, Fa)	3	
Finance or Interdisciplinary Electives	3	
Junior Senior Business Electives	3	
General Education Elective	3	
FINN 4313 Advanced Commercial Banking (Sp)		3
Finance or Interdisciplinary Electives		3

## Finance B.S.B.A. with Energy Finance Concentration

### Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program.

If a student selects the Energy Finance concentration, they must take ACCT 3723 and ACCT 3753 as junior senior business electives in their junior year. Energy Finance students will also be involved in the management of the David Carter Adams Energy Sector student managed investment fund and participate in the premiere Energy Risk Professional (ERP) certification program.

Courses in **BOLD** must be taken in the designated semester. Although other courses listed are not required to be completed in the designated sequence, the recommendations below are preferred.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa) <sup>2</sup>	3	
MATH 2053 Finite Mathematics (Sp, Su, Fa) <sup>2</sup>	3	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa) <sup>2</sup>	3	
WCOB 1111 Freshman Business Connection (Fa) <sup>2</sup>	1	
BLAW 2013 The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa) <sup>1</sup>	3	
ISYS 1120 Computer Competency Requirement (Sp, Su, Fa)	0	
U.S. History or Political Science - University Core	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa) <sup>2</sup>		3
ACCT 2013 Accounting Principles (Sp, Su, Fa) <sup>2</sup>		3
WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa) <sup>2</sup>		3
ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa) <sup>2</sup>		3
GEOS 1133 Earth Science (ACTS Equivalency = GEOL 1124 Lecture) (Sp, Fa)		4
& GEOS 1131L Earth Science Laboratory (ACTS Equivalency = GEOL 1124 Lab) (Sp, Fa)		
Year Total:	16	16

Second Year	Units	
	Fall	Spring
ACCT 2023 Accounting Principles II (Sp, Su, Fa) <sup>2</sup>	3	
ISYS 2103 Business Information Systems (Sp, Su, Fa) <sup>1</sup>	3	
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) <sup>2</sup>	3	
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa) <sup>2</sup>	3	
Social Science - University Core	3	
SCMT 2103 Introduction to Supply Chain Management (Sp, Fa) <sup>1</sup>		3

MGMT 2103 Managing People and Organizations (Sp, Su, Fa) <sup>1</sup>		3
FINN 3043 Principles of Finance (Sp, Su, Fa)		3
Fine Arts/Humanities - University Core <sup>1</sup>		3
Natural Science - University Core <sup>1</sup>		4
Year Total:	15	16

Third Year	Units	
	Fall	Spring
MKTG 3433 Introduction to Marketing (Sp, Su, Fa) <sup>1</sup>	3	
FINN 3013 Financial Analysis (Sp, Su, Fa)	3	
GEOS 4253 Petroleum Geology (Fa)	3	
FINN 3103 Financial Modeling (Sp, Su, Fa)	3	
ACCT 3723 Intermediate Accounting I (Sp, Fa)	3	
FINN 3053 Financial Markets and Institutions (Sp, Su, Fa)		3
ACCT 3753 Intermediate Accounting II (Sp)		3
FINN 4173 Energy Finance (Sp, Fa)		3
MGMT 3013 Strategic Management (Sp, Su, Fa)		3
Fine Arts/Humanities - University Core		3
Year Total:	15	15

Fourth Year	Units	
	Fall	Spring
FINN 3703 International Finance (Sp, Su, Fa)	3	
ACCT 449V Special Topics in Accounting (Irregular)	3	
Junior Senior Business Elective	3	
Finance Elective	3	
General Education Elective	3	
Junior Senior Business Elective		3
Finance Elective		3
General Education Electives		6
Year Total:	15	12

Total Units in Sequence: 120

## Finance Major with Financial Management/Investment Concentration

### Finance Major Requirements

#### Major Course Requirements

FINN 3013	Financial Analysis (Sp, Su, Fa)	3
FINN 3053	Financial Markets and Institutions (Sp, Su, Fa)	3
FINN 3703	International Finance (Sp, Su, Fa)	3

Maximum of 27 hours of FINN courses in department (core, major, elective). More than 27 hours allowed if the extra courses are part of interdisciplinary minor or collateral track.

<b>Junior/Senior Level Business Electives</b>	12
<b>Concentration hours</b>	15
<b>Total Hours</b>	36

## Financial Management/Investment Concentration

FINN 3103	Financial Modeling (Sp, Su, Fa)	3
Plus one of the following options:		6

Option 1: Any two of the four courses listed below:

FINN 3063	Investments (Sp, Su, Fa)	
FINN 3603	Corporate Finance (Sp, Su, Fa)	
FINN 4133	Advanced Investments (Sp, Fa)	
FINN 4233	Advanced Corporate Finance (Irregular)	

Option 2:

FINN 4143	Portfolio Management I (Fa)	
FINN 4153	Portfolio Management II (Sp)	

Option 3:

FINN 3163	Fixed Income Securities I (Fa)	
FINN 3173	Fixed Income Securities II (Sp)	

Any two of the following courses, which are highly recommended, satisfy the 6-credit-hour interdisciplinary requirement in the finance major: 6

### Accounting

ACCT 3723	Intermediate Accounting I (Sp, Fa)	
ACCT 3753	Intermediate Accounting II (Sp)	

### Economics

ECON 4433	Experimental Economics (Fa)	
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### Information Systems

ISYS 2263	Principles of Information Systems (Sp, Fa)	
ISYS 4213	ERP Fundamentals (Sp, Fa)	

### Management

MGMT 3933	Entrepreneurship and New Venture Development (Sp, Fa)	
MGMT 4433	Small Enterprise Management (Sp)	

### Marketing

MKTG 3553	Consumer Behavior (Sp, Fa)	
MKTG 3633	Marketing Research (Sp, Fa)	

### Supply Chain Management

SCMT 3613	Supply Management (Sp, Fa)	
SCMT 3623	Advanced Inventory Management and Forecasting (Sp, Fa)	

Total Hours 15

## Finance B.S.B.A. with Financial Management and Investment Concentration Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program.

Courses in BOLD must be taken in the designated semester. Courses in ITALIC may be taken in varied sequences as long as other designated requirements for these courses are met. Although other courses listed are not required to be completed in the designated sequence, the recommendations below are preferred.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2053 Finite Mathematics (Sp, Su, Fa)	3	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3	
WCOB 1111 Freshman Business Connection (Fa)	1	
BLAW 2013 The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa) <sup>1</sup>	3	
ISYS 1120 Computer Competency Requirement (Sp, Su, Fa)	0	
U.S. History or Political Science - University Core	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
ACCT 2013 Accounting Principles (Sp, Su, Fa)		3
WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa)		3
ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)		3
Natural Science - University Core		4
Year Total:	16	16

Second Year	Units	
	Fall	Spring
ACCT 2023 Accounting Principles II (Sp, Su, Fa)	3	
ISYS 2103 Business Information Systems (Sp, Su, Fa) <sup>1</sup>	3	
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) <sup>2</sup>	3	
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa) <sup>2</sup>	3	
Social Science - University Core	3	
SCMT 2103 Introduction to Supply Chain Management (Sp, Fa)		3
MGMT 2103 Managing People and Organizations (Sp, Su, Fa) <sup>1</sup>		3
FINN 3043 Principles of Finance (Sp, Su, Fa) <sup>1</sup>		3
Fine Art/Humanities - University Core		3
Natural Science - University Core		4
Year Total:	15	16

Third Year	Units	
	Fall	Spring
MKTG 3433 Introduction to Marketing (Sp, Su, Fa) <sup>1</sup>	3	
FINN 3013 Financial Analysis (Sp, Su, Fa)	3	
FINN 3103 Financial Modeling (Sp, Su, Fa)	3	
Junior Senior Business Elective	3	
Fine Arts/Humanities - University Core	3	
FINN 3053 Financial Markets and Institutions (Sp, Su, Fa)		3
Finance or Interdisciplinary Elective		3
MGMT 3013 Strategic Management (Sp, Su, Fa)		3

Junior Senior Business Electives	3	
General Education Elective	3	
Year Total:	15	15

Fourth Year	Units	
	Fall	Spring
Finance Option Class	3	
Junior Senior Business Electives	6	
General Education Electives	3	
FINN 3703 International Finance (Sp, Su, Fa)		3
Finance Option Class <sup>4</sup>		3
Finance or Interdisciplinary Elective		3
General Education Electives		6
Year Total:	12	15

Total Units in Sequence: 120

<sup>1</sup> Must be completed prior to MGMT 3013.

<sup>2</sup> Must be completed prior to taking any 3000 or 4000 level business classes.

<sup>3</sup> If student selects Option 2 (FINN 4143 and FINN 4153) under the Financial Management concentration, they must take ACCT 3723 as a junior/senior business elective in Fall of their junior year, FINN 3063 as either a junior/senior business elective or a finance/interdisciplinary elective in Spring of their junior year. If student selects Option 3 (FINN 3163 and FINN 3173) they must take FINN 3063 as either a junior/ senior business elective or a finance/interdisciplinary elective in their junior year.

## Finance Major with Insurance Concentration

### Finance Major Requirements

#### Major Course Requirements

FINN 3013	Financial Analysis (Sp, Su, Fa)	3
FINN 3053	Financial Markets and Institutions (Sp, Su, Fa)	3
FINN 3703	International Finance (Sp, Su, Fa)	3

Maximum of 27 hours of FINN courses in department (core, major, elective). More than 27 hours allowed if the extra courses are part of interdisciplinary minor or collateral track.

**Junior/Senior Level Business Electives** 12

**Concentration hours** 15

Total Hours 36

### Risk Management Concentration

FINN 3623	Risk Management (Sp, Fa)	3
FINN 4733	Life and Health Insurance I (Fa)	3
FINN 4833	Property and Casualty Insurance I (Sp)	3

Any two of the following courses, which are highly recommended, satisfy the 6-credit-hour interdisciplinary requirement in the finance major:

#### Accounting

ACCT 3723	Intermediate Accounting I (Sp, Fa)
ACCT 3753	Intermediate Accounting II (Sp)

#### Economics

ECON 4433 Experimental Economics (Fa)

#### Information Systems

ISYS 2263 Principles of Information Systems (Sp, Fa)

ISYS 4213 ERP Fundamentals (Sp, Fa)

#### Management

MGMT 3933 Entrepreneurship and New Venture Development (Sp, Fa)

MGMT 4433 Small Enterprise Management (Sp)

#### Marketing

MKTG 3553 Consumer Behavior (Sp, Fa)

MKTG 3633 Marketing Research (Sp, Fa)

#### Supply Chain Management

SCMT 3613 Supply Management (Sp, Fa)

SCMT 3623 Advanced Inventory Management and Forecasting (Sp, Fa)

Total Hours 15

## Finance B.S.B.A. with Risk Management Concentration

### Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program.

Courses in BOLD must be taken in the designated semester. Courses in ITALIC may be taken in varied sequences as long as other designated requirements for these courses are met. Although other courses listed are not required to be completed in the designated sequence, the recommendations below are preferred.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2053 Finite Mathematics (Sp, Su, Fa)	3	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3	
WCOB 1111 Freshman Business Connection (Fa)	1	
BLAW 2013 The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa) <sup>1</sup>	3	
ISYS 1120 Computer Competency Requirement (Sp, Su, Fa)	0	
U.S. History or Political Science - University Core	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
ACCT 2013 Accounting Principles (Sp, Su, Fa)		3
WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa)		3
ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)		3
Natural Science - University Core		4
Year Total:	16	16

Second Year	Units	
	Fall	Spring
ACCT 2023 Accounting Principles II (Sp, Su, Fa)	3	
ISYS 2103 Business Information Systems (Sp, Su, Fa) <sup>1</sup>	3	
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) <sup>2</sup>	3	
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa) <sup>2</sup>	3	
Fine Art/Humanities - University Core	3	
SCMT 2103 Introduction to Supply Chain Management (Sp, Fa)		3
MGMT 2103 Managing People and Organizations (Sp, Su, Fa) <sup>1</sup>		3
FINN 3043 Principles of Finance (Sp, Su, Fa) <sup>1</sup>		3
Fine/Arts Humanities - University Core		3
Natural Science - University Core		4
Year Total:	15	16

Third Year	Units	
	Fall	Spring
MKTG 3433 Introduction to Marketing (Sp, Su, Fa) <sup>1</sup>	3	
FINN 3013 Financial Analysis (Sp, Su, Fa)	3	
FINN 3623 Risk Management (Sp, Fa)	3	
General Education Electives	3	
FINN 3053 Financial Markets and Institutions (Sp, Su, Fa)		3
FINN 4833 Property and Casualty Insurance I (Sp)		3
MGMT 3013 Strategic Management (Sp, Su, Fa)		3
Junior/Senior Business Electives		3
General Education Electives		3
Year Total:	12	15

Fourth Year	Units	
	Fall	Spring
FINN 3703 International Finance (Sp, Su, Fa)	3	
FINN 4733 Life and Health Insurance I (Fa)	3	
Junior Senior Business Electives	6	
General Education Elective	3	
Finance or Interdisciplinary Electives		6
Junior Senior Business Elective		3
Fine Arts/Humanities - University Core		3
General Education Electives		3
Year Total:	15	15

Total Units in Sequence: 120

<sup>1</sup> Must be completed prior to MGMT 3013.

<sup>2</sup> Must be completed prior to taking any 3000 or 4000 level courses.

## Finance Major with Real Estate Concentration

### Finance Major Requirements

#### Major Course Requirements

FINN 3013	Financial Analysis (Sp, Su, Fa)	3
FINN 3053	Financial Markets and Institutions (Sp, Su, Fa)	3
FINN 3703	International Finance (Sp, Su, Fa)	3

Maximum of 27 hours of FINN courses in department (core, major, elective). More than 27 hours allowed if the extra courses are part of interdisciplinary minor or collateral track.

**Junior/Senior Level Business Electives** 12

**Concentration hours** 15

Total Hours 36

### Real Estate Concentration

FINN 3933	Real Estate Principles (Sp, Fa)	3
FINN 4413	Real Estate Appraisal (Fa)	3
FINN 4433	Real Estate Finance and Investment (Sp)	3

Any two of the following courses, which are highly recommended, satisfy the 6-credit-hour interdisciplinary requirement in the finance major: 6

#### Accounting

ACCT 3723	Intermediate Accounting I (Sp, Fa)
ACCT 3753	Intermediate Accounting II (Sp)

#### Economics

ECON 4433	Experimental Economics (Fa)
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#### Information Systems

ISYS 2263	Principles of Information Systems (Sp, Fa)
ISYS 4213	ERP Fundamentals (Sp, Fa)

#### Management

MGMT 3933	Entrepreneurship and New Venture Development (Sp, Fa)
MGMT 4433	Small Enterprise Management (Sp)

#### Marketing

MKTG 3553	Consumer Behavior (Sp, Fa)
MKTG 3633	Marketing Research (Sp, Fa)

#### Supply Chain Management

SCMT 3613	Supply Management (Sp, Fa)
SCMT 3623	Advanced Inventory Management and Forecasting (Sp, Fa)

Total Hours 15

## Finance B.S.B.A. with Real Estate Concentration

### Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program.

Courses in BOLD must be taken in the designated semester. Courses in ITALIC may be taken in varied sequences as long as other designated requirements for these courses are met. Although other courses listed

are not required to be completed in the designated sequence, the recommendations below are preferred.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2053 Finite Mathematics (Sp, Su, Fa)	3	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3	
WCOB 1111 Freshman Business Connection (Fa)	1	
BLAW 2013 The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa) <sup>1</sup>	3	
ISYS 1120 Computer Competency Requirement (Sp, Su, Fa)	0	
U.S. History or Political Science - University Core	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
ACCT 2013 Accounting Principles (Sp, Su, Fa)		3
WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa)		3
ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)		3
Natural Science - University Core		4
Year Total:	16	16

Second Year	Units	
	Fall	Spring
ACCT 2023 Accounting Principles II (Sp, Su, Fa)	3	
ISYS 2103 Business Information Systems (Sp, Su, Fa) <sup>1</sup>	3	
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) <sup>2</sup>	3	
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa) <sup>2</sup>	3	
Social Science - University Core	3	
SCMT 2103 Introduction to Supply Chain Management (Sp, Fa)		3
MGMT 2103 Managing People and Organizations (Sp, Su, Fa)		3
FINN 3043 Principles of Finance (Sp, Su, Fa) <sup>1</sup>		3
Fine Art/Humanities - University Core		3
Natural Science - University Core		4
Year Total:	15	16

Third Year	Units	
	Fall	Spring
MKTG 3433 Introduction to Marketing (Sp, Su, Fa) <sup>1</sup>	3	
FINN 3013 Financial Analysis (Sp, Su, Fa)	3	
FINN 3933 Real Estate Principles (Sp, Fa)	3	
Fine Arts/Humanities - University Core	3	
FINN 3053 Financial Markets and Institutions (Sp, Su, Fa)		3

FINN 4433 Real Estate Finance and Investment (Sp)		3
MGMT 3013 Strategic Management (Sp, Su, Fa)		3
Junior Senior Business Electives		3
General Education Elective		3
Year Total:	12	15

Fourth Year	Units	
	Fall	Spring
FINN 3703 International Finance (Sp, Su, Fa)	3	
FINN 4413 Real Estate Appraisal (Fa)	3	
Junior Senior Business Electives	6	
General Education Elective	3	
Finance or Interdisciplinary Elective		6
Junior Senior Business Elective		3
General Education Elective		6
Year Total:	15	15

Total Units in Sequence: 120

<sup>1</sup> Must be completed prior to MGMT 3013.

<sup>2</sup> Must be completed prior to taking any 3000 or 4000 level business courses.

## Finance Minors for Business Students

The Department of Finance offers two minor options for Walton College students in the areas of Banking/Financial Management/ Investment and Insurance/Real Estate. The minors require completion of 15 hours of study with all of the upper level courses applied toward the minor taken in residence. The 15 hours include the following options and courses:

### 1. Banking/Financial Management/Investment 15

FINN 3013 Financial Analysis (Sp, Su, Fa)

Select two of the following:

FINN 3053 Financial Markets and Institutions (Sp, Su, Fa)

FINN 3103 Financial Modeling (Sp, Su, Fa)

FINN 3703 International Finance (Sp, Su, Fa)

Select two of the following:

FINN 3063 Investments (Sp, Su, Fa)

FINN 3133 Commercial Banking (Sp, Fa)

FINN 3603 Corporate Finance (Sp, Su, Fa)

FINN 4133 Advanced Investments (Sp, Fa)

FINN 4233 Advanced Corporate Finance (Irregular)

FINN 4313 Advanced Commercial Banking (Sp)

Total Hours 15

### 2. Insurance/Real Estate 15

Select five of the following:

FINN 3003 Personal Financial Management (Sp, Fa)

FINN 3623 Risk Management (Sp, Fa)

FINN 4733 Life and Health Insurance I (Fa)

FINN 4833 Property and Casualty Insurance I (Sp)

FINN 3933 Real Estate Principles (Sp, Fa)

FINN 4413 Real Estate Appraisal (Fa)



FINN 4433 Real Estate Finance and Investment (Sp)

Total Hours 15

Students who desire to earn a Finance minor must notify the Walton College Undergraduate Programs Office of their intent to pursue a minor. All requirements for a minor must be completed prior to the awarding of the student's undergraduate degree. All specific course prerequisites must be met. Each student must have a 2.00 cumulative grade-point average in the courses offered for the minor.

## Information Systems (ISYS)

### Faculty

**Cash Acrey**, Clinical Assistant Professor

**Brittany Michelle Bright**, Instructor

**Susan E. Bristow**, Clinical Assistant Professor

**David E. Bruce**, Lecturer

**Timothy P. Cronan**, Professor, M.D. Matthews Endowed Chair in Information Systems

**David Douglas**, University Professor, Walton College Professorship in Information Systems

**Joseph Ehrhardt**, Instructor

**Ron Freeze**, Clinical Associate Professor

**Hartmut Hoehle**, Associate Professor

**Erica Holliday**, Instructor

**Elizabeth Keiffer**, Instructor

**Phillip D. Kindy**, Instructor

**Xiao Ma**, Assistant Professor

**Andrew Mackey**, Instructor

**Suresh Malladi**, Assistant Professor

**Beverly McDaniel**, Instructor

**Jeff Mullins**, Executive in Residence

**Lisa Pierce**, Instructor

**Rajiv Sabherwal**, Professor, Edwin and Karlee Bradberry Chair

**Christina Serrano**, Assistant Professor

**Pankaj Setia**, Associate Professor

**Tracy Ann Sykes**, Associate Professor

**Rhonda A. Syler**, Clinical Assistant Professor

**Viswanath Venkatesh**, Distinguished Professor, George and Boyce Billingsley Endowed Chair in Information Systems

**Adriana Wilhelm**, Instructor

Rajiv Sabherwal

Department Chair, 204 WCOB, 479-575-4500

Information Systems Department Website (<https://information-systems.uark.edu>)

The curriculum in information systems is designed to prepare graduates for careers in solving business problems with applications of computer technology.

Graduates with a degree in Information Systems are sought by hundreds of companies for many different types of positions, such as programmer, analyst, database administrator, and web developer, among others. Graduates are now programming, analyzing and designing systems, consulting, teaching, and solving business problems across the country.

Three concentrations are offered:

- Business Analytics
- Enterprise Resource Planning
- Enterprise Systems

The department also offers two minors: one in business analytics and one in information systems for business students.

## Information Systems Major Requirements

The major in Information Systems requires 24 hours of major and collateral courses in the discipline as well as satisfying the other requirements for the B.S.B.A. degree. A maximum of 27 hours is allowed in the Information Systems major or discipline field of study (i.e., core, major, electives) unless the extra courses are part of an interdisciplinary minor. The Information Systems department encourages its majors to seek an interdisciplinary minor. See an adviser for selection of courses.

NOTE: Course requirements in the Information Systems major total 24 credit hours. Because of prerequisites, students should allow two full years (24 months) to complete this coursework. Prerequisites are strictly enforced.

### Course Requirements in the Major for All Concentrations 24

ISYS 2263	Principles of Information Systems (Sp, Fa)	
ISYS 3293	Systems Analysis and Design (Sp, Fa)	
ISYS 3393	Business Application Development Fundamentals (Sp)	
ISYS 4283	Business Database Systems (Fa)	
ISYS 4363	Business Project Development (Sp)	
ISYS 4213	ERP Fundamentals (Sp, Fa)	

Note: These required courses represent a common body of knowledge for all information systems majors. Majors must select one of the following concentrations and must complete six additional hours of coursework in the elected concentration.

Maximum of 27 hours of ISYS courses in department (core, major, elective). More than 27 hours allowed if the extra courses are part of interdisciplinary minor or collateral track.

### Junior/Senior Level Business Electives 12

### Concentration Courses 6

Total Hours 42

- <sup>1</sup> CSCE 2004 Programming Foundations I (Sp, Fa) is recommended as a general education elective.

## Business Analytics Concentration

ISYS 4193	Business Analytics and Visualization (Fa)	3
ISYS 4293	Business Intelligence (Sp)	3

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2053 Finite Mathematics (Sp, Su, Fa)	3	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3	
WCOB 1111 Freshman Business Connection (Fa)	1	
BLAW 2013 The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa)	3	
ISYS 1120 Computer Competency Requirement (Sp, Su, Fa)	0	
U.S. History or Political Science - University Core	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3

ACCT 2013 Accounting Principles (Sp, Su, Fa)	3
WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa)	3
ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)	3
Natural Science - University Core	4
Year Total:	16

Second Year	Units	
	Fall	Spring
MGMT 2053 Business Foundations (Sp, Su, Fa)	3	
ISYS 2103 Business Information Systems (Sp, Su, Fa)	3	
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)	3	
Social Science - University Core	3	
Fine Arts/Humanities - University Core	3	
SCMT 2103 Introduction to Supply Chain Management (Sp, Fa)		3
MGMT 2103 Managing People and Organizations (Sp, Su, Fa)		3
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)		3
ISYS 2263 Principles of Information Systems (Sp, Fa)		3
Natural Science - University Core		4
Year Total:	15	16

Third Year	Units	
	Fall	Spring
FINN 3043 Principles of Finance (Sp, Su, Fa)	3	
MKTG 3433 Introduction to Marketing (Sp, Su, Fa)	3	
ISYS 3293 Systems Analysis and Design (Sp, Fa)	3	
Junior/Senior Business Electives	3	
ISYS 3393 Business Application Development Fundamentals (Sp)		3
ISYS 4213 ERP Fundamentals (Sp, Fa)		3
MGMT 3013 Strategic Management (Sp, Su, Fa)		3
Junior/Senior Business Electives		3
General Education Electives		3
Year Total:	12	15

Fourth Year	Units	
	Fall	Spring
ISYS 4283 Business Database Systems (Fa)	3	
ISYS 4193 Business Analytics and Visualization (Fa)	3	
Junior/Senior Business Electives	6	
General Education Electives	3	
ISYS 4293 Business Intelligence (Sp)		3
ISYS 4363 Business Project Development (Sp)		3
Fine Arts/Humanities		3
General Education Electives		6
Year Total:	15	15

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Total Units in Sequence: 120

\* Must be completed prior to or as a co-requisite to WCOB 1033 Data Analysis and Interpretation.

\*\* Must be completed prior to MGMT 3013 Strategic Management.

\*\*\* Must be completed prior to taking any 3000 or 4000-level business courses

## Information Systems Major Requirements

The major in Information Systems requires 24 hours of major and collateral courses in the discipline as well as satisfying the other requirements for the B.S.B.A. degree. A maximum of 27 hours is allowed in the Information Systems major or discipline field of study (i.e., core, major, electives) unless the extra courses are part of an interdisciplinary minor. The Information Systems department encourages its majors to seek an interdisciplinary minor. See an adviser for selection of courses.

NOTE: Course requirements in the Information Systems major total 24 credit hours. Because of prerequisites, students should allow two full years (24 months) to complete this coursework. Prerequisites are strictly enforced.

### Course Requirements in the Major for All Concentrations 24

ISYS 2263	Principles of Information Systems (Sp, Fa)	
ISYS 3293	Systems Analysis and Design (Sp, Fa)	
ISYS 3393	Business Application Development Fundamentals (Sp)	
ISYS 4283	Business Database Systems (Fa)	
ISYS 4363	Business Project Development (Sp)	
ISYS 4213	ERP Fundamentals (Sp, Fa)	

Note: These required courses represent a common body of knowledge for all information systems majors. Majors must select one of the following concentrations and must complete six additional hours of coursework in the elected concentration.

Maximum of 27 hours of ISYS courses in department (core, major, elective). More than 27 hours allowed if the extra courses are part of interdisciplinary minor or collateral track.

### Junior/Senior Level Business Electives 12

### Concentration Courses 6

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Total Hours 42

<sup>1</sup> CSCE 2004 Programming Foundations I (Sp, Fa) is recommended as a general education elective.

## Enterprise Resource Planning Concentration

ISYS 4223	ERP Configuration and Implementation (Fa)	3
ISYS 4233	Seminar in ERP Development (Sp)	3
Total Hours		6

## Information Systems B.S.B.A. with Enterprise Resource Planning Concentration Eight-Semester Degree Program:

Students wishing to follow the eight-semester degree plan for Information Systems should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program.

Courses in BOLD must be taken in the designated semester. Courses in ITALIC may be taken in varied sequences as long as other designated requirements for these courses are met. Although other courses listed are not required to be completed in the designated sequence, the recommendations below are preferred.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2053 Finite Mathematics (Sp, Su, Fa)	3	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3	
WCOB 1111 Freshman Business Connection (Fa)	1	
BLAW 2013 The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa) <sup>1</sup>	3	
ISYS 1120 Computer Competency Requirement (Sp, Su, Fa)	0	
U.S. History or Political Science Course	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
ACCT 2013 Accounting Principles (Sp, Su, Fa)		3
WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa)		3
ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)		3
Natural Science Course		4
Year Total:	16	16

Second Year	Units	
	Fall	Spring
MGMT 2053 Business Foundations (Sp, Su, Fa)	3	
ISYS 2103 Business Information Systems (Sp, Su, Fa) <sup>1</sup>	3	
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) <sup>2</sup>	3	
Social Science	3	
Fine Art/Humanities	3	
SCMT 2103 Introduction to Supply Chain Management (Sp, Fa) <sup>1</sup>		3
MGMT 2103 Managing People and Organizations (Sp, Su, Fa) <sup>1</sup>		3
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa) <sup>2</sup>		3
ISYS 2263 Principles of Information Systems (Sp, Fa)		3
Natural Science		4
Year Total:	15	16

Third Year	Units	
	Fall	Spring
FINN 3043 Principles of Finance (Sp, Su, Fa) <sup>1</sup>	3	
MKTG 3433 Introduction to Marketing (Sp, Su, Fa) <sup>1</sup>	3	
ISYS 3293 Systems Analysis and Design (Sp, Fa)	3	

Junior Senior Business Electives	3	
ISYS 3393 Business Application Development Fundamentals (Sp)		3
ISYS 4213 ERP Fundamentals (Sp, Fa)		3
MGMT 3013 Strategic Management (Sp, Su, Fa)		3
Junior Senior Business Electives	3	
General Education Elective		3
Year Total:	12	15

Fourth Year	Units	
	Fall	Spring
ISYS 4283 Business Database Systems (Fa)	3	
ISYS 4223 ERP Configuration and Implementation (Fa)	3	
Junior Senior Business Electives	6	
General Education Electives	3	
ISYS 4363 Business Project Development (Sp)		3
ISYS 4233 Seminar in ERP Development (Sp)		3
General Education Electives		6
Fine Arts/Humanities - University Core		3
Year Total:	15	15

Total Units in Sequence: 120

<sup>1</sup> Must be completed prior to MGMT 3013.

<sup>2</sup> Must be completed prior to taking any 3000 or 4000 level courses.

## Information Systems Major Requirements

The major in Information Systems requires 24 hours of major and collateral courses in the discipline as well as satisfying the other requirements for the B.S.B.A. degree. A maximum of 27 hours is allowed in the Information Systems major or discipline field of study (i.e., core, major, electives) unless the extra courses are part of an interdisciplinary minor. The Information Systems department encourages its majors to seek an interdisciplinary minor. See an adviser for selection of courses.

NOTE: Course requirements in the Information Systems major total 24 credit hours. Because of prerequisites, students should allow two full years (24 months) to complete this coursework. Prerequisites are strictly enforced.

Course Requirements in the Major for All Concentrations		24
ISYS 2263	Principles of Information Systems (Sp, Fa)	
ISYS 3293	Systems Analysis and Design (Sp, Fa)	
ISYS 3393	Business Application Development Fundamentals (Sp)	
ISYS 4283	Business Database Systems (Fa)	
ISYS 4363	Business Project Development (Sp)	
ISYS 4213	ERP Fundamentals (Sp, Fa)	

Note: These required courses represent a common body of knowledge for all information systems majors. Majors must select one of the following concentrations and must complete six additional hours of coursework in the elected concentration.

Maximum of 27 hours of ISYS courses in department (core, major, elective). More than 27 hours allowed if the extra courses are part of interdisciplinary minor or collateral track.

<b>Junior/Senior Level Business Electives</b>	12
<b>Concentration Courses</b>	6
<b>Total Hours</b>	42

<sup>1</sup> CSCE 2004 Programming Foundations I (Sp, Fa) is recommended as a general education elective.

### Enterprise Systems Concentration

ISYS 4453	Introduction to Enterprise Servers (Fa)	3
ISYS 4463	Enterprise Transaction Systems (Sp)	3
<b>Total Hours</b>		6

### Information Systems B.S.B.A. with Enterprise Systems Concentration

#### Eight-Semester Degree Program:

Students wishing to follow the eight-semester degree plan for Information Systems should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program.

Courses in BOLD must be taken in the designated semester. Courses in ITALIC may be taken in varied sequences as long as other designated requirements for these courses are met. Although other courses listed are not required to be completed in the designated sequence, the recommendations below are preferred.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2053 Finite Mathematics (Sp, Su, Fa)	3	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3	
WCOB 1111 Freshman Business Connection (Fa)	1	
BLAW 2013 The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa)	3	
ISYS 1120 Computer Competency Requirement (Sp, Su, Fa)	0	
U.S. History or Political Science Course	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
ACCT 2013 Accounting Principles (Sp, Su, Fa)		3
WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa)		3
ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)		3
Natural Science Course		4
<b>Year Total:</b>	16	16

Second Year	Units	
	Fall	Spring
MGMT 2053 Business Foundations (Sp, Su, Fa)	3	
ISYS 2103 Business Information Systems (Sp, Su, Fa) <sup>1</sup>	3	
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) <sup>2</sup>	3	
Social Science Course	3	

Fine Art/Humanities Course	3	
SCMT 2103 Introduction to Supply Chain Management (Sp, Fa) <sup>1</sup>		3
MGMT 2103 Managing People and Organizations (Sp, Su, Fa) <sup>1</sup>		3
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)		3
ISYS 2263 Principles of Information Systems (Sp, Fa)		3
Natural Science - University Core		4
<b>Year Total:</b>	15	16

Third Year	Units	
	Fall	Spring
FINN 3043 Principles of Finance (Sp, Su, Fa) <sup>1</sup>	3	
MKTG 3433 Introduction to Marketing (Sp, Su, Fa) <sup>1</sup>	3	
ISYS 3293 Systems Analysis and Design (Sp, Fa)	3	
Junior Senior Business Electives	3	
ISYS 3393 Business Application Development Fundamentals (Sp)		3
ISYS 4213 ERP Fundamentals (Sp, Fa)		3
MGMT 3013 Strategic Management (Sp, Su, Fa)		3
Junior Senior Business Electives		3
General Education Elective		3
<b>Year Total:</b>	12	15

Fourth Year	Units	
	Fall	Spring
ISYS 4283 Business Database Systems (Fa)	3	
ISYS 4453 Introduction to Enterprise Servers (Fa)	3	
Junior Senior Business Electives	6	
General Education Electives	3	
ISYS 4363 Business Project Development (Sp)		3
ISYS 4463 Enterprise Transaction Systems (Sp)		3
Fine Arts/Humanities		3
General Education Electives		6
<b>Year Total:</b>	15	15
<b>Total Units in Sequence:</b>	120	

<sup>1</sup> Must be completed prior to MGMT 3013.

<sup>2</sup> Must be completed prior to taking any 3000 or 4000 level business courses.

### Business Analytics Minor

The Walton College offers an interdisciplinary minor in Business Analytics.

Analytics are currently used by many companies for applications ranging from strategic management of data to day operations to customer insights to retail analytics to developing and maintaining a competitive edge.

The minor requires completion of 15 hours of study with all of the upper division courses applied toward the minor taken in residence. The 15 hours include:

ISYS 4193	Business Analytics and Visualization (Fa)	3
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ISYS 4293	Business Intelligence (Sp)	3
ISYS 4393	Seminar in Applied Business Analytics (Sp)	3
Select two courses (6 hours) from the following:		6
ISYS 4213	ERP Fundamentals (Sp, Fa)	
FINN 3013	Financial Analysis (Sp, Su, Fa)	
ECON 4743	Introduction to Econometrics (Sp)	
ECON 4753	Forecasting (Fa)	
MGMT 4243	Ethics and Corporate Responsibility (Sp, Fa)	
MKTG 3633	Marketing Research (Sp, Fa)	
SCMT 3623	Advanced Inventory Management and Forecasting (Sp, Fa)	

Students who desire to earn a Business Analytics minor must notify the Walton College Undergraduate Programs Office of intent to pursue a minor. All requirements for a minor must be completed prior to the awarding of the student's undergraduate degree. All specific course prerequisites must be met. Each student must have a 2.00 cumulative grade-point average in the courses offered for the minor. All upper division minor requirements must be taken in residence.

## Information Systems Minor for Business Students

The Department of Information Systems offers a minor for Walton College students desiring more knowledge of information systems to assist them in their careers. The minor requires completion of 15 hours of study with all of the upper level courses applied toward the minor in residence. The 15 hours include the following courses:

ISYS 2263	Principles of Information Systems (Sp, Fa)	3
ISYS 3293	Systems Analysis and Design (Sp, Fa)	3
ISYS 3393	Business Application Development Fundamentals (Sp)	3
ISYS 4213	ERP Fundamentals (Sp, Fa)	3
Select one of the following:		3
ISYS 4223	ERP Configuration and Implementation (Fa)	
Any 3-hour Junior/Senior level ISYS course		
Total Hours		15

Students who desire to earn an Information Systems minor must notify the Walton College Undergraduate Programs Office of intent to pursue a minor. All requirements for the minor must be completed prior to the awarding of the student's undergraduate degree. All specific course prerequisites must be met. Each student must have a 2.00 cumulative grade-point average in the courses offered for the minor.

## Management (MGMT)

### Faculty

**Melissa Adkins**, Instructor  
**Vikas Anand**, Professor, Charles C. Fitchner Chair in Management  
**Denise Breaux-Soignet**, Clinical Assistant Professor  
**John Delery**, Professor, Raymond F. Orr Chair in Management  
**Gary Dowdy**, Instructor  
**Alan E. Ellstrand**, Professor  
**Anna Goussevskaia**, Clinical Assistant Professor  
**Nina Gupta**, Distinguished Professor, John H. Tyson Chair in Management  
**Jon Johnson**, Professor, Walton College Professorship in Sustainability  
**Mahendra Joshi**, Adjunct Associate Professor

**Jennifer Kish-Gephart**, Associate Professor  
**John Launder**, Instructor  
**Rebecca McKnight**, Instructor  
**Anne M. O'Leary-Kelly**, Professor, William R. and Cacia Howard Chair in Management  
**Brian K. Pullen**, Instructor  
**Carol Reeves**, Professor, Cecil and Gwendolyn Cupp Applied Professorship in Entrepreneurship  
**Jason Ridge**, Associate Professor  
**Carolyn Rodeffer**, Instructor  
**Chris Rosen**, Professor  
**Lauren Simon**, Assistant Professor  
**Dan Worrell**, Professor, Corporate Responsibility Professorship in Management  
**Michael Yates**, Instructor

Vikas Anand  
 Department Chair, 402 WCOB, 479-575-4566  
 Management Department Website (<https://management.uark.edu>)

Management is the force responsible for directing organizations toward goals or objectives. Therefore, the management curriculum focuses on the nature and capabilities of human and other resources, as well as how the manager plans, organizes, staffs, coordinates, and evaluates those resources in an organization and its environment. The study of management prepares men and women for positions of leadership in profit and nonprofit organizations of all sizes. Management majors gain insight and skill needed for careers as professional managers or as self-employed entrepreneurs. These skills include technical knowledge, communicative capacity, human understanding, and conceptual and problem-solving ability. Two majors are offered in the management department. Requirements of the management major are listed below. Find out more about the general business (p. 372) major.

Students may choose from among three concentrations:

- Human Resource Management
- Small Business and Entrepreneurship
- Organizational Leadership.

## Management Major with Human Resource Management Concentration

The Human Resource Management Concentration is designed to prepare students for careers in human resource-related occupations. Among issues and areas addressed are management-employee relations, quality of work life, compensation and other reward systems, organizational staffing, and training and development. The Human Resource Management track emphasizes the importance of integrating individual goals and organizational objectives.

All management majors must complete MGMT 4243 Ethics and Corporate Responsibility. An additional 21 hours of credit are required for students majoring in management. Six of these credit hours are specified in the concentration. Beyond this, students can choose from specified management and non-management courses in order to complete the requirements for the major.

## Management Major Requirements

The major in management requires 24 hours of major and collateral courses in the discipline as well as satisfying the other requirements for the B.S.B.A. degree. A maximum of 27 hours is allowed in a management major or discipline field of study (i.e., core, major, electives) unless the

extra courses are part of an interdisciplinary minor or collateral track. See an adviser for selection of courses.

### Courses Required

MGMT 4243 Ethics and Corporate Responsibility (Sp, Fa) 3

Students must complete the following 21 hours by selecting one, three hour course from each of the following seven groups: (Sequencing of courses will be determined by choices made)

#### Group 1 3

MGMT 3933 Entrepreneurship and New Venture Development (Sp, Fa)

MGMT 4243 Ethics and Corporate Responsibility (Sp, Fa)

MGMT 4253 Leadership (Sp, Fa)

MGMT 4263 Organizational Change and Development (Sp, Fa)

MGMT 4433 Small Enterprise Management (Sp)

MGMT 4943 Organizational Staffing (Sp, Fa)

MGMT 4953 Organizational Rewards and Compensation (Sp, Fa)

#### Group 2 3

ACCT 3533 Accounting Technology (Sp, Fa)

ACCT 3723 Intermediate Accounting I (Sp, Fa)

ACCT 3753 Intermediate Accounting II (Sp)

#### Group 3 3

ISYS 2263 Principles of Information Systems (Sp, Fa)

ISYS 3293 Systems Analysis and Design (Sp, Fa)

ISYS 3393 Business Application Development Fundamentals (Sp)

ISYS 4213 ERP Fundamentals (Sp, Fa)

#### Group 4 3

ECON 3033 Microeconomic Theory (Sp, Su, Fa)

ECON 3133 Macroeconomic Theory (Sp, Fa)

ECON 3533 Labor Economics (Fa)

ECON 4333 Economics of Organizations (Fa)

ECON 4633 International Trade (Sp, Fa)

ECON 4643 International Macroeconomics and Finance (Sp, Fa)

#### Group 5 3

FINN 3053 Financial Markets and Institutions (Sp, Su, Fa)

FINN 3063 Investments (Sp, Su, Fa)

FINN 3623 Risk Management (Sp, Fa)

#### Group 6 3

MKTG 4233 Integrated Marketing Communications (Sp, Fa)

MKTG 3553 Consumer Behavior (Sp, Fa)

MKTG 4433 Retail Strategy (Sp, Fa)

#### Group 7 3

SCMT 3443 Transportation and Distribution Management (Sp, Fa)

SCMT 3613 Supply Management (Sp, Fa)

SCMT 3623 Advanced Inventory Management and Forecasting (Sp, Fa)

SCMT 3643 International Transportation and Logistics (Sp, Fa)

SCMT 4633 Logistics Provider and Carrier Management (Sp, Fa)

SCMT 4653 Supply Chain Strategy (Sp, Fa)

### Concentration Hours 21

Maximum of 27 hours of MGMT courses in department (core, major, elective). More than 27 hours allowed if the extra courses are part of interdisciplinary minor or collateral track.

### Junior/Senior Level Business Electives 12

Total Hours 57

## Human Resources Management Concentration

MGMT 4943 Organizational Staffing (Sp, Fa) 3

MGMT 4953 Organizational Rewards and Compensation (Sp, Fa) 3

Select two of the following: 6

MGMT 3933 Entrepreneurship and New Venture Development (Sp, Fa)

MGMT 4103 Special Topics in Management (Irregular)

MGMT 4253 Leadership (Sp, Fa)

MGMT 4263 Organizational Change and Development (Sp, Fa)

MGMT 4433 Small Enterprise Management (Sp)

MGMT 4583 International Management (Sp, Fa)

MGMT 4993 Entrepreneurship Practicum (Sp, Su, Fa)

Select three of the following: 9

ACCT 3723 Intermediate Accounting I (Sp, Fa)

ECON 3533 Labor Economics (Fa)

ECON 4333 Economics of Organizations (Fa)

ISYS 2263 Principles of Information Systems (Sp, Fa)

MKTG 3553 Consumer Behavior (Sp, Fa)

MKTG 3633 Marketing Research (Sp, Fa)

MKTG 4853 Marketing Management (Sp, Fa)

Total Hours 21

## Management B.S.B.A., Human Resources Management Concentration Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program.

Courses in BOLD must be taken in the designated semester. Courses in ITALIC may be taken in varied sequences as long as other designated requirements for these courses are met. Although other courses listed are not required to be completed in the designated sequence, the recommendations below are preferred.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2053 Finite Mathematics (Sp, Su, Fa)		3
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3	
WCOB 1111 Freshman Business Connection (Fa)	1	
BLAW 2013 The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa) <sup>1</sup>	3	

ISYS 1120 Computer Competency Requirement (Sp, Su, Fa)	0	
U.S. History or Political Science – University Core	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
ACCT 2013 Accounting Principles (Sp, Su, Fa)		3
WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa)		3
ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)		3
Natural Science – University Core		4
Year Total:	16	16

Second Year	Units	
	Fall	Spring
MGMT 2053 Business Foundations (Sp, Su, Fa)	3	
ISYS 2103 Business Information Systems (Sp, Su, Fa) <sup>1</sup>	3	
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) <sup>2</sup>	3	
Social Science – University Core	3	
Fine Art/Humanities – University Core	3	
SCMT 2103 Introduction to Supply Chain Management (Sp, Fa) <sup>1</sup>		3
MGMT 2103 Managing People and Organizations (Sp, Su, Fa) <sup>1</sup>		3
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa) <sup>2</sup>		3
Fine Art/Humanities – University Core		3
Natural Science – University Core		4
ALL pre-business requirements should be met by end of term		
Year Total:	15	16

Third Year	Units	
	Fall	Spring
FINN 3043 Principles of Finance (Sp, Su, Fa) <sup>1</sup>	3	
MKTG 3433 Introduction to Marketing (Sp, Su, Fa) <sup>1</sup>	3	
MGMT 4243 Ethics and Corporate Responsibility (Sp, Fa)	3	
or MGMT 4953 Organizational Rewards and Compensation (Sp, Fa)		
MGMT 4943 Organizational Staffing (Sp, Fa)	3	
Junior Senior Business Elective	3	
MGMT 3013 Strategic Management (Sp, Su, Fa)		3
MGMT 4953 Organizational Rewards and Compensation (Sp, Fa)		3
or MGMT 4243 Ethics and Corporate Responsibility (Sp, Fa)		
MGMT or Collateral Electives		3
Junior Senior Business Elective		3
General Education Elective		3
Year Total:	15	15

Fourth Year	Units	
	Fall	Spring
MGMT Electives	6	
MGMT or Collateral Electives	3	
Junior Senior Business Elective	3	
General Education Electives	3	
MGMT or Collateral Elective		3
Junior Senior Business Electives		3
General Education Electives		6
Year Total:	15	12
Total Units in Sequence:		120

<sup>1</sup> Must be completed prior to MGMT 3013.

<sup>2</sup> Must be completed prior to taking any 3000 or 4000 level business courses.

## Management Major with Organizational Leadership Concentration

The Organizational Leadership Concentration prepares new students for leadership positions within organizations. Among the topics explored are employee motivation, how to manage power and influence within organizations, developing effective teams, managing diversity, organizational transformation and change, and globalization.

All management majors must complete MGMT 4243 Ethics and Corporate Responsibility. An additional 21 hours of credit are required for students majoring in management. Six of these credit hours are specified in the concentration. Beyond this, students can choose from specified management and non-management courses in order to complete the requirements for the major.

## Management Major Requirements

The major in management requires 24 hours of major and collateral courses in the discipline as well as satisfying the other requirements for the B.S.B.A. degree. A maximum of 27 hours is allowed in a management major or discipline field of study (i.e., core, major, electives) unless the extra courses are part of an interdisciplinary minor or collateral track. See an adviser for selection of courses.

### Courses Required

MGMT 4243 Ethics and Corporate Responsibility (Sp, Fa) 3  
Students must complete the following 21 hours by selecting one, three hour course from each of the following seven groups: (Sequencing of courses will be determined by choices made)

Group 1		3
MGMT 3933	Entrepreneurship and New Venture Development (Sp, Fa)	
MGMT 4243	Ethics and Corporate Responsibility (Sp, Fa)	
MGMT 4253	Leadership (Sp, Fa)	
MGMT 4263	Organizational Change and Development (Sp, Fa)	
MGMT 4433	Small Enterprise Management (Sp)	
MGMT 4943	Organizational Staffing (Sp, Fa)	
MGMT 4953	Organizational Rewards and Compensation (Sp, Fa)	
Group 2		3
ACCT 3533	Accounting Technology (Sp, Fa)	

ACCT 3723	Intermediate Accounting I (Sp, Fa)	
ACCT 3753	Intermediate Accounting II (Sp)	
<b>Group 3</b>		<b>3</b>
ISYS 2263	Principles of Information Systems (Sp, Fa)	
ISYS 3293	Systems Analysis and Design (Sp, Fa)	
ISYS 3393	Business Application Development Fundamentals (Sp)	
ISYS 4213	ERP Fundamentals (Sp, Fa)	
<b>Group 4</b>		<b>3</b>
ECON 3033	Microeconomic Theory (Sp, Su, Fa)	
ECON 3133	Macroeconomic Theory (Sp, Fa)	
ECON 3533	Labor Economics (Fa)	
ECON 4333	Economics of Organizations (Fa)	
ECON 4633	International Trade (Sp, Fa)	
ECON 4643	International Macroeconomics and Finance (Sp, Fa)	
<b>Group 5</b>		<b>3</b>
FINN 3053	Financial Markets and Institutions (Sp, Su, Fa)	
FINN 3063	Investments (Sp, Su, Fa)	
FINN 3623	Risk Management (Sp, Fa)	
<b>Group 6</b>		<b>3</b>
MKTG 4233	Integrated Marketing Communications (Sp, Fa)	
MKTG 3553	Consumer Behavior (Sp, Fa)	
MKTG 4433	Retail Strategy (Sp, Fa)	
<b>Group 7</b>		<b>3</b>
SCMT 3443	Transportation and Distribution Management (Sp, Fa)	
SCMT 3613	Supply Management (Sp, Fa)	
SCMT 3623	Advanced Inventory Management and Forecasting (Sp, Fa)	
SCMT 3643	International Transportation and Logistics (Sp, Fa)	
SCMT 4633	Logistics Provider and Carrier Management (Sp, Fa)	
SCMT 4653	Supply Chain Strategy (Sp, Fa)	
<b>Concentration Hours</b>		<b>21</b>
Maximum of 27 hours of MGMT courses in department (core, major, elective). More than 27 hours allowed if the extra courses are part of interdisciplinary minor or collateral track.		
<b>Junior/Senior Level Business Electives</b>		<b>12</b>
<b>Total Hours</b>		<b>57</b>

## Organizational Leadership Concentration

MGMT 4253	Leadership (Sp, Fa)	3
MGMT 4263	Organizational Change and Development (Sp, Fa)	3
Select two of the following:		6
MGMT 3933	Entrepreneurship and New Venture Development (Sp, Fa)	
MGMT 4103	Special Topics in Management (Irregular)	
MGMT 4433	Small Enterprise Management (Sp)	
MGMT 4583	International Management (Sp, Fa)	
MGMT 4943	Organizational Staffing (Sp, Fa)	
MGMT 4953	Organizational Rewards and Compensation (Sp, Fa)	
MGMT 4993	Entrepreneurship Practicum (Sp, Su, Fa)	

Select three of the following:		9
ACCT 4753	Intermediate Accounting III (Sp, Fa)	
ECON 3533	Labor Economics (Fa)	
ECON 4333	Economics of Organizations (Fa)	
ECON 4643	International Macroeconomics and Finance (Sp, Fa)	
FINN 3603	Corporate Finance (Sp, Su, Fa)	
FINN 3703	International Finance (Sp, Su, Fa)	
ISYS 2263	Principles of Information Systems (Sp, Fa)	
MKTG 4853	Marketing Management (Sp, Fa)	
MKTG 3633	Marketing Research (Sp, Fa)	
SCMT 3613	Supply Management (Sp, Fa)	
SCMT 3643	International Transportation and Logistics (Sp, Fa)	
SCMT 3653	Retail Supply Chain Analysis (Sp, Fa)	

Total Hours 21

## Management B.S.B.A., Organizational Leadership Concentration Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program.

Courses in BOLD must be taken in the designated semester. Courses in ITALIC may be taken in varied sequences as long as other designated requirements for these courses are met. Although other courses listed are not required to be completed in the designated sequence, the recommendations below are preferred.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2053 Finite Mathematics (Sp, Su, Fa)	3	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3	
WCOB 1111 Freshman Business Connection (Fa)	1	
BLAW 2013 The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa) <sup>1</sup>	3	
ISYS 1120 Computer Competency Requirement (Sp, Su, Fa)	0	
U.S. History or Political Science – University Core	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
ACCT 2013 Accounting Principles (Sp, Su, Fa)		3
WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa)		3
ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)		3
Natural Science – University Core		4
<b>Year Total:</b>	<b>16</b>	<b>16</b>

Second Year	Units	
	Fall	Spring
MGMT 2053 Business Foundations (Sp, Su, Fa)	3	



ISYS 2103 Business Information Systems (Sp, Su, Fa) <sup>1</sup>	3	
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) <sup>2</sup>	3	
Social Science – University Core	3	
Fine Art/Humanities – University Core	3	
SCMT 2103 Introduction to Supply Chain Management (Sp, Fa) <sup>1</sup>	3	
MGMT 2103 Managing People and Organizations (Sp, Su, Fa) <sup>1</sup>	3	
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa) <sup>2</sup>	3	
Fine Art/Humanities – University Core	3	
Natural Science – University Core	4	
ALL pre-business requirements should be met by end of term		
Year Total:	15	16

Third Year	Units	
	Fall	Spring
FINN 3043 Principles of Finance (Sp, Su, Fa)	3	
MKTG 3433 Introduction to Marketing (Sp, Su, Fa)	3	
MGMT 4243 Ethics and Corporate Responsibility (Sp, Fa)	3	
MGMT 4253 Leadership (Sp, Fa)	3	
Junior Senior Business Elective	3	
MGMT 3013 Strategic Management (Sp, Su, Fa)		3
MGMT 4263 Organizational Change and Development (Sp, Fa)		3
MGMT or Collateral Electives		3
Junior Senior Business Elective		3
General Education Elective		3
Year Total:	15	15

Fourth Year	Units	
	Fall	Spring
MGMT Electives	6	
MGMT or Collateral Electives	3	
Junior Senior Business Elective	3	
General Education Electives	3	
MGMT or Collateral Elective		3
Junior Senior Business Electives		3
General Education Electives		6
Year Total:	15	12

Total Units in Sequence: 120

<sup>1</sup> Must be completed prior to MGMT 3013.

<sup>2</sup> Must be completed prior to taking any 3000 or 4000 level business courses.

## Management Major with Small Business and Entrepreneurship Concentration

The Small Business and Entrepreneurship Concentration is suggested for students who are interested in starting and/or operating a small business or independent company after graduation. The Small Business and Entrepreneurship focus provides excellent preparation for students wishing to obtain a highly integrated view of business operations.

All management majors must complete MGMT 4243 Ethics and Corporate Responsibility. An additional 21 hours of credit are required for students majoring in management. Six of these credit hours are specified in the concentration. Beyond this, students can choose from specified management and non-management courses in order to complete the requirements for the major.

### Management Major Requirements

The major in management requires 24 hours of major and collateral courses in the discipline as well as satisfying the other requirements for the B.S.B.A. degree. A maximum of 27 hours is allowed in a management major or discipline field of study (i.e., core, major, electives) unless the extra courses are part of an interdisciplinary minor or collateral track. See an adviser for selection of courses.

#### Courses Required

MGMT 4243 Ethics and Corporate Responsibility (Sp, Fa) 3

Students must complete the following 21 hours by selecting one, three hour course from each of the following seven groups: (Sequencing of courses will be determined by choices made)

#### Group 1 3

MGMT 3933 Entrepreneurship and New Venture Development (Sp, Fa)

MGMT 4243 Ethics and Corporate Responsibility (Sp, Fa)

MGMT 4253 Leadership (Sp, Fa)

MGMT 4263 Organizational Change and Development (Sp, Fa)

MGMT 4433 Small Enterprise Management (Sp)

MGMT 4943 Organizational Staffing (Sp, Fa)

MGMT 4953 Organizational Rewards and Compensation (Sp, Fa)

#### Group 2 3

ACCT 3533 Accounting Technology (Sp, Fa)

ACCT 3723 Intermediate Accounting I (Sp, Fa)

ACCT 3753 Intermediate Accounting II (Sp)

#### Group 3 3

ISYS 2263 Principles of Information Systems (Sp, Fa)

ISYS 3293 Systems Analysis and Design (Sp, Fa)

ISYS 3393 Business Application Development Fundamentals (Sp)

ISYS 4213 ERP Fundamentals (Sp, Fa)

#### Group 4 3

ECON 3033 Microeconomic Theory (Sp, Su, Fa)

ECON 3133 Macroeconomic Theory (Sp, Fa)

ECON 3533 Labor Economics (Fa)

ECON 4333 Economics of Organizations (Fa)

ECON 4633 International Trade (Sp, Fa)

ECON 4643 International Macroeconomics and Finance (Sp, Fa)

<b>Group 5</b>		3
FINN 3053	Financial Markets and Institutions (Sp, Su, Fa)	
FINN 3063	Investments (Sp, Su, Fa)	
FINN 3623	Risk Management (Sp, Fa)	
<b>Group 6</b>		3
MKTG 4233	Integrated Marketing Communications (Sp, Fa)	
MKTG 3553	Consumer Behavior (Sp, Fa)	
MKTG 4433	Retail Strategy (Sp, Fa)	
<b>Group 7</b>		3
SCMT 3443	Transportation and Distribution Management (Sp, Fa)	
SCMT 3613	Supply Management (Sp, Fa)	
SCMT 3623	Advanced Inventory Management and Forecasting (Sp, Fa)	
SCMT 3643	International Transportation and Logistics (Sp, Fa)	
SCMT 4633	Logistics Provider and Carrier Management (Sp, Fa)	
SCMT 4653	Supply Chain Strategy (Sp, Fa)	
<b>Concentration Hours</b>		21
Maximum of 27 hours of MGMT courses in department (core, major, elective). More than 27 hours allowed if the extra courses are part of interdisciplinary minor or collateral track.		
<b>Junior/Senior Level Business Electives</b>		12
<b>Total Hours</b>		57

## Small Business and Entrepreneurship Concentration

MGMT 3933	Entrepreneurship and New Venture Development (Sp, Fa)	3
MGMT 4433	Small Enterprise Management (Sp)	3
Select two of the following:		6
MGMT 4103	Special Topics in Management (Irregular)	
MGMT 4253	Leadership (Sp, Fa)	
MGMT 4263	Organizational Change and Development (Sp, Fa)	
MGMT 4583	International Management (Sp, Fa)	
MGMT 4943	Organizational Staffing (Sp, Fa)	
MGMT 4953	Organizational Rewards and Compensation (Sp, Fa)	
MGMT 4993	Entrepreneurship Practicum (Sp, Su, Fa)	
Select three of the following:		9
ACCT 3723	Intermediate Accounting I (Sp, Fa)	
ACCT 3843	Fundamentals of Taxation I (Sp, Fa)	
BLAW 3033	Commercial Law (Sp)	
FINN 3053	Financial Markets and Institutions (Sp, Su, Fa)	
FINN 3623	Risk Management (Sp, Fa)	
FINN 3933	Real Estate Principles (Sp, Fa)	
ISYS 2263	Principles of Information Systems (Sp, Fa)	
MKTG 3553	Consumer Behavior (Sp, Fa)	
MKTG 4233	Integrated Marketing Communications (Sp, Fa)	
MKTG 4343	Selling and Sales Management (Sp, Fa)	
MKTG 4433	Retail Strategy (Sp, Fa)	
MKTG 4633	Global Marketing (Sp, Fa)	
SCMT 3613	Supply Management (Sp, Fa)	

SCMT 3623	Advanced Inventory Management and Forecasting (Sp, Fa)	
SCMT 4653	Supply Chain Strategy (Sp, Fa)	
<b>Total Hours</b>		21

## Management B.S.B.A., Small Business and Entrepreneurship Concentration Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program.

Courses in BOLD must be taken in the designated semester. Courses in ITALIC may be taken in varied sequences as long as other designated requirements for these courses are met. Although other courses listed are not required to be completed in the designated sequence, the recommendations below are preferred.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2053 Finite Mathematics (Sp, Su, Fa)	3	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3	
WCOB 1111 Freshman Business Connection (Fa)	1	
BLAW 2013 The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa) <sup>1</sup>	3	
ISYS 1123 Business Application Knowledge - Computer Competency (Sp, Su, Fa)		3
U.S. History or Political Science – University Core		3
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
ACCT 2013 Accounting Principles (Sp, Su, Fa)		3
WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa)		3
ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)		3
Natural Science – University Core		4
<b>Year Total:</b>	<b>16</b>	<b>16</b>

Second Year	Units	
	Fall	Spring
MGMT 2053 Business Foundations (Sp, Su, Fa)	3	
ISYS 2103 Business Information Systems (Sp, Su, Fa) <sup>1</sup>	3	
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) <sup>2</sup>	3	
Social Science – University Core	3	
Fine Art/Humanities – University Core	3	
SCMT 2103 Introduction to Supply Chain Management (Sp, Fa) <sup>1</sup>		3
MGMT 2103 Managing People and Organizations (Sp, Su, Fa) <sup>1</sup>		3
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa) <sup>2</sup>		3

Fine Art/Humanities – University Core	3
Natural Science – University Core	4
ALL pre-business requirements should be met by end of term	
Year Total:	15 16

Third Year	Units	
	Fall	Spring
FINN 3043 Principles of Finance (Sp, Su, Fa) <sup>1</sup>	3	
MKTG 3433 Introduction to Marketing (Sp, Su, Fa) <sup>1</sup>	3	
MGMT 3933 Entrepreneurship and New Venture Development (Sp, Fa)	3	
MGMT 4243 Ethics and Corporate Responsibility (Sp, Fa)	3	
Junior Senior Business Elective	3	
MGMT 3013 Strategic Management (Sp, Su, Fa)		3
MGMT 4433 Small Enterprise Management (Sp)		3
MGMT or Collateral Electives		3
Junior Senior Business Elective		3
General Education Elective		3
Year Total:	15	15

Fourth Year	Units	
	Fall	Spring
MGMT Electives	6	
MGMT or Collateral Electives	3	
Junior Senior Business Elective	3	
General Education Electives	3	
MGMT or Collateral Elective		3
Junior Senior Business Electives		3
General Education Electives		6
Year Total:	15	12

Total Units in Sequence: 120

<sup>1</sup> Must be completed prior to MGMT 3013.

<sup>2</sup> Must be completed prior to taking any 3000 or 4000 level business course.

## Management Minor for Business Students

The Department of Management offers a minor for students desiring more knowledge of management to assist them in their careers. The minor requires completion of 15 hours of study with all of the upper level courses applied toward the minor in residence. The 15 hours include the following courses:

MGMT 4243	Ethics and Corporate Responsibility (Sp, Fa)	3
Select four of the following:		12
MGMT 3933	Entrepreneurship and New Venture Development (Sp, Fa)	
MGMT 4103	Special Topics in Management (Irregular)	
MGMT 4253	Leadership (Sp, Fa)	
MGMT 4263	Organizational Change and Development (Sp, Fa)	
MGMT 4433	Small Enterprise Management (Sp)	

MGMT 4583	International Management (Sp, Fa)
MGMT 4943	Organizational Staffing (Sp, Fa)
MGMT 4953	Organizational Rewards and Compensation (Sp, Fa)
MGMT 4993	Entrepreneurship Practicum (Sp, Su, Fa)
Total Hours	15

Students who desire to earn a Management minor must notify the Walton College Undergraduate Programs Office of intent to pursue the minor. All requirements for the minor must be completed prior to the awarding of a student's undergraduate degree. All specific course prerequisites must be met. Each student must have a 2.00 cumulative grade-point average in the courses offered for the minor. All upper level requirements must be taken in residence.

## Marketing (MKTG)

### Faculty

**Dub Ashton**, Associate Professor  
**Scot Burton**, Distinguished Professor, Tyson Chair in Food and Consumer Products Retailing  
**John Walker Cole**, Instructor  
**Nicole R. Cox**, Instructor  
**Dinesh K. Gauri**, Professor  
**Dinesh K. Gauri**, Professor, Walmart Chair in Marketing  
**Betsy Howlett**, Professor  
**Molly R. Jensen**, Clinical Associate Professor  
**Sarah Jensen**, Instructor  
**Thomas D. Jensen**, Professor, Wal-Mart Lecturer in Retailing  
**Steven W. Kopp**, Associate Professor  
**Rebecca S. Miles**, Clinical Assistant Professor  
**Jeff B. Murray**, Professor, R.A. and Vivian Young Chair in Marketing  
**Molly Rapert**, Associate Professor  
**Ronn J. Smith**, Associate Professor  
**Robin Leigh Soster**, Assistant Professor  
**Robert E. Stassen**, Associate Professor  
**Jennifer Taylor**, Research Professor  
**Anne M. Velliquette**, Clinical Assistant Professor

Jeff B. Murray,  
 Department Chair, 302 WCOB, 479-575-4055  
 Marketing Department Website (<https://marketing.uark.edu>)

The Department of Marketing offers two majors leading to a Bachelor of Science in Business Administration degree: Marketing and Retail. Requirements for the Marketing major are listed here. Find out more about the major at the Retail page (p. 411).

The major in marketing is designed to prepare students for careers involving product planning, distribution, promotion, and pricing strategies in profit or nonprofit organizations. In addition to a broad overview of the marketing functions within organizations, students are provided with knowledge and skills in consumer behavior, marketing research, and strategic marketing.

Students majoring in marketing are actively subjected to problem-solving situations, both domestic and international, where a variety of contemporary tools are employed to stimulate the strategic decision-making process. Supportive disciplines with which the marketer should be familiar include psychology, sociology, accounting, economics, statistics, quantitative analysis, and research methodology.

The marketing major is intended to provide students with broad knowledge and skills in marketing applicable to a wide range of profit and nonprofit organizations.

## Requirements for a Major in Marketing

The major in marketing requires 21 hours of major and collateral courses in the discipline as well as satisfying the other requirements for the B.S.B.A. degree. A maximum of 27 hours is allowed in a marketing major or discipline field of study (i.e., core, major, electives) unless the extra courses are part of an interdisciplinary minor or collateral track. See an adviser for selection of courses.

Major Course Requirements		21
MKTG 3553	Consumer Behavior (Sp, Fa)	
MKTG 3633	Marketing Research (Sp, Fa)	
MKTG 4853	Marketing Management (Sp, Fa)	
Select four of the following:		
MKTG 3653	Category Management Topics (Irregular)	
MKTG 4233	Integrated Marketing Communications (Sp, Fa)	
MKTG 4343	Selling and Sales Management (Sp, Fa)	
MKTG 4103	Marketing Topics (Irregular) (May take up to six hours from two different topics)	
MKTG 4633	Global Marketing (Sp, Fa)	
MKTG 4433	Retail Strategy (Sp, Fa)	
MKTG 4443	Retail Buying and Merchandise (Sp, Fa)	
MKTG 4513	Nonprofit Marketing (Sp, Fa)	
Maximum of 27 hours of MKTG courses in department (core, major, elective). More than 27 hours allowed if the extra courses are part of interdisciplinary minor or collateral track.		
Total Hours		21

Junior/Senior Business Electives (15 hours)

## Marketing B.S.B.A. Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should the Eight-Semester Degree Policy (p. 73) for university requirements of the program.

Courses in BOLD must be taken in the designated semester. Courses in ITALIC may be taken in varied sequences as long as other designated requirements for these courses are met. Although other courses listed are not required to be completed in the designated sequence, the recommendations below are preferred.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2053 Finite Mathematics (Sp, Su, Fa)	3	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3	
WCOB 1111 Freshman Business Connection (Fa)	1	
BLAW 2013 The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa) <sup>1</sup>	3	
ISYS 1120 Computer Competency Requirement (Sp, Su, Fa)	0	
U.S. History or Political Science – University Core	3	

ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)	3	
ACCT 2013 Accounting Principles (Sp, Su, Fa)	3	
WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa)	3	
ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)	3	
Natural Science – University Core	4	
Year Total:	16	16

Second Year	Units	
	Fall	Spring
MGMT 2053 Business Foundations (Sp, Su, Fa) or ACCT 2023 Accounting Principles II (Sp, Su, Fa)	3	
ISYS 2103 Business Information Systems (Sp, Su, Fa) <sup>1</sup>	3	
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) <sup>2</sup>	3	
Social Science – University Core	3	
Fine Art/Humanities– University Core	3	
SCMT 2103 Introduction to Supply Chain Management (Sp, Fa) <sup>1</sup>		3
MGMT 2103 Managing People and Organizations (Sp, Su, Fa) <sup>1</sup>		3
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa) <sup>2</sup>		3
Fine Art/Humanities – University Core		3
Natural Science – University Core		4
ALL pre-business requirements should be met by end of term		
Year Total:	15	16

Third Year	Units	
	Fall	Spring
MKTG 3433 Introduction to Marketing (Sp, Su, Fa) <sup>1</sup>	3	
FINN 3043 Principles of Finance (Sp, Su, Fa) <sup>1</sup>	3	
Junior Senior Business Electives	6	
MKTG 3633 Marketing Research (Sp, Fa)		3
MKTG Elective		3
MGMT 3013 Strategic Management (Sp, Su, Fa)		3
Junior Senior Business Electives		3
General Education Elective		3
Year Total:	12	15

Fourth Year	Units	
	Fall	Spring
MKTG 3553 Consumer Behavior (Sp, Fa)	3	
MKTG Electives	6	
General Education Electives	6	
MKTG 4853 Marketing Management (Sp, Fa)		3
MKTG Elective		3
Junior Senior Business Elective		6
General Education Electives		3

Year Total:	15	15
<hr/>		
Total Units in Sequence:		120

<sup>1</sup> Must be completed prior to MGMT 3013.

<sup>2</sup> Must be completed prior to taking any 3000 or 4000 level business course.

## Marketing Minor for Business Students

The Department of Marketing offers a minor for Walton College students desiring more knowledge of marketing to assist them in their careers. The minor requires the completion of 15 hours of study with all of the courses applied toward the minor taken in residence. The 15 hours include the following courses:

MKTG 3433	Introduction to Marketing (Sp, Su, Fa)	3
MKTG 3553	Consumer Behavior (Sp, Fa)	3
Select three of the following:		9
MKTG 3653	Category Management Topics (Irregular)	
MKTG 4233	Integrated Marketing Communications (Sp, Fa)	
MKTG 4343	Selling and Sales Management (Sp, Fa)	
MKTG 3633	Marketing Research (Sp, Fa)	
MKTG 4633	Global Marketing (Sp, Fa)	
MKTG 4433	Retail Strategy (Sp, Fa)	
MKTG 4443	Retail Buying and Merchandise (Sp, Fa)	
MKTG 4513	Nonprofit Marketing (Sp, Fa)	
<hr/>		
Total Hours		15

Students who desire to earn a Marketing minor must notify the Walton College Undergraduate Programs Office of intent to pursue a minor. All requirements for the minor must be completed prior to the awarding of the student's undergraduate degree. All specific course pre-requisites must be met. Each student must have a 2.00 cumulative grade-point average in the courses offered for the minor. All upper level minor requirements must be taken in residence.

## Retail (RETL)

### Faculty

**Dub Ashton**, Associate Professor

**John Walker Cole**, Instructor

**Nicole R. Cox**, Instructor

**Betsy Howlett**, Professor

**Molly R. Jensen**, Clinical Associate Professor

**Sarah Jensen**, Instructor

**Thomas D. Jensen**, Professor, Wal-Mart Lecturer in Retailing

**Steven W. Kopp**, Associate Professor

**Jeff B. Murray**, Professor, R.A. and Vivian Young Chair in Marketing

**Ronn J. Smith**, Associate Professor

**Robin Leigh Soster**, Assistant Professor

**Robert E. Stassen**, Associate Professor

Jeff B. Murray,

Marketing Department Chair, 302 WCOB, 479-575-4055

The Department of Marketing offers a retail major that leads to a B.S.B.A. degree. The department also offers a marketing major (<http://catalog.uark.edu/undergraduatecatalog/collegesandschools/sammwaltoncollegeofbusiness/marketingmktg>).

The major in retail is designed to prepare students for careers in retailing or in companies that manufacture, sell, and distribute consumer goods to retailers. In addition to a broad view of the business and retail environments students can select to concentrate their retail studies in accounting, economics, finance, information systems, international retail, management, marketing, or supply chain management. A general retail concentration is also available.

## Retail Major Requirements

The retail major requires 24 hours of major and collateral courses in the discipline as well as satisfying the other requirements for the B.S.B.A. degree. A maximum of 27 hours is allowed in a retail major or discipline field of study (i.e., core, major, electives) unless the extra courses are part of an interdisciplinary minor or collateral track. See an adviser for selection of courses.

### Major Course Requirements in All Concentrations

MKTG 3553	Consumer Behavior (Sp, Fa)	3
MKTG 3633	Marketing Research (Sp, Fa)	3
MKTG 4433	Retail Strategy (Sp, Fa)	3
MKTG 4443	Retail Buying and Merchandise (Sp, Fa)	3
Select four from a single concentration:		12

#### Accounting Concentration

ACCT 3723 Intermediate Accounting I (Sp, Fa)

ACCT 3753 Intermediate Accounting II (Sp)

ACCT 4673 Product, Project and Service Costing (Fa)

ACCT 4753

#### Economics Concentration

ECON 3033 Microeconomic Theory (Sp, Su, Fa)

ECON 3133 Macroeconomic Theory (Sp, Fa)

ECON 4333 Economics of Organizations (Fa)

ECON 4633 International Trade (Sp, Fa)

ECON 4643 International Macroeconomics and Finance (Sp, Fa)

#### Finance Concentration

FINN 3013 Financial Analysis (Sp, Su, Fa)

FINN 3053 Financial Markets and Institutions (Sp, Su, Fa)

FINN 3603 Corporate Finance (Sp, Su, Fa)

And select one of the following:

FINN 3623 Risk Management (Sp, Fa)

FINN 3703 International Finance (Sp, Su, Fa)

FINN 3933 Real Estate Principles (Sp, Fa)

#### Information Systems Concentration

ISYS 2263 Principles of Information Systems (Sp, Fa)

ISYS 4213 ERP Fundamentals (Sp, Fa)

ISYS 4243 Current Topics in Computer Information (Irregular)

ISYS 4293 Business Intelligence (Sp)

#### Management Concentration

MGMT 3933 Entrepreneurship and New Venture Development (Sp, Fa)

MGMT 4243 Ethics and Corporate Responsibility (Sp, Fa)

MGMT 4253 Leadership (Sp, Fa)

MGMT 4263 Organizational Change and Development (Sp, Fa)

MGMT 4433 Small Enterprise Management (Sp)

MGMT 4583 International Management (Sp, Fa)

MGMT 4943	Organizational Staffing (Sp, Fa)
MGMT 4953	Organizational Rewards and Compensation (Sp, Fa)

**Marketing Concentration**

MKTG 3653	Category Management Topics (Irregular)
MKTG 4003H	Honors Marketing and Transportation Colloquium (Fa)
MKTG 4103	Marketing Topics (Irregular)
MKTG 4233	Integrated Marketing Communications (Sp, Fa)
MKTG 4343	Selling and Sales Management (Sp, Fa)
MKTG 4513	Nonprofit Marketing (Sp, Fa)
MKTG 4633	Global Marketing (Sp, Fa)
MKTG 4853	Marketing Management (Sp, Fa)

**Supply Chain Management Concentration**

SCMT 3443	Transportation and Distribution Management (Sp, Fa)
SCMT 3613	Supply Management (Sp, Fa)
SCMT 3623	Advanced Inventory Management and Forecasting (Sp, Fa)
SCMT 3643	International Transportation and Logistics (Sp, Fa)
SCMT 4633	Logistics Provider and Carrier Management (Sp, Fa)

**General Retail Concentration**

Select one from four different areas:

**Economics**

ACCT 3723	Intermediate Accounting I (Sp, Fa)
ECON 3033	Microeconomic Theory (Sp, Su, Fa)
ECON 3133	Macroeconomic Theory (Sp, Fa)
ECON 4333	Economics of Organizations (Fa)
ECON 4633	International Trade (Sp, Fa)
ECON 4643	International Macroeconomics and Finance (Sp, Fa)

**Finance**

FINN 3013	Financial Analysis (Sp, Su, Fa)
FINN 3053	Financial Markets and Institutions (Sp, Su, Fa)
FINN 3603	Corporate Finance (Sp, Su, Fa)
FINN 3623	Risk Management (Sp, Fa)
FINN 3703	International Finance (Sp, Su, Fa)
FINN 3933	Real Estate Principles (Sp, Fa)
FINN 4833	Property and Casualty Insurance I (Sp)

**Information Systems**

ISYS 2263	Principles of Information Systems (Sp, Fa)
ISYS 4243	Current Topics in Computer Information (Irregular)
ISYS 4213	ERP Fundamentals (Sp, Fa)

**Management**

MGMT 4243	Ethics and Corporate Responsibility (Sp, Fa)
MGMT 4253	Leadership (Sp, Fa)
MGMT 4263	Organizational Change and Development (Sp, Fa)
MGMT 4943	Organizational Staffing (Sp, Fa)
MGMT 4953	Organizational Rewards and Compensation (Sp, Fa)
MGMT 4433	Small Enterprise Management (Sp)

**Marketing**

MKTG 3633	Marketing Research (Sp, Fa)
MKTG 3653	Category Management Topics (Irregular)
MKTG 4233	Integrated Marketing Communications (Sp, Fa)
MKTG 4343	Selling and Sales Management (Sp, Fa)
MKTG 4633	Global Marketing (Sp, Fa)

**Supply Chain Management**

SCMT 3443	Transportation and Distribution Management (Sp, Fa)
SCMT 3613	Supply Management (Sp, Fa)

Maximum of 27 hours of MKTG courses in department (core, major, elective). More than 27 hours allowed if the extra courses are part of interdisciplinary minor or collateral track.

**Junior/Senior Business Electives**

12

**Retail B.S.B.A. Eight-Semester Degree Program**

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program.

Courses in BOLD must be taken in the designated semester. Courses in ITALIC may be taken in varied sequences as long as other designated requirements for these courses are met. Although other courses listed are not required to be completed in the designated sequence, the recommendations below are preferred.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2053 Finite Mathematics (Sp, Su, Fa)	3	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa) <sup>1</sup>	3	
WCOB 1111 Freshman Business Connection (Fa)	1	
BLAW 2013 The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa) <sup>1</sup>	3	
ISYS 1120 Computer Competency Requirement (Sp, Su, Fa)	0	
U.S. History or Political Science— University Core	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
ACCT 2013 Accounting Principles (Sp, Su, Fa)		3
WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa)		3
ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)		3
Natural Science – University Core		4
Year Total:	16	16

**Second Year**

	Units	
	Fall	Spring
MGMT 2053 Business Foundations (Sp, Su, Fa) or ACCT 2023 Accounting Principles II (Sp, Su, Fa)	3	
ISYS 2103 Business Information Systems (Sp, Su, Fa) <sup>1</sup>	3	

MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) <sup>2</sup>	3	
Social Science – University Core	3	
Fine Art/Humanities – University Core	3	
SCMT 2103 Introduction to Supply Chain Management (Sp, Fa) <sup>1</sup>	3	3
MGMT 2103 Managing People and Organizations (Sp, Su, Fa) <sup>1</sup>	3	3
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa) <sup>2</sup>	3	3
Fine Art/Humanities – University Core	3	3
Natural Science – University Core	4	4
ALL pre-business requirements should be met by end of term		
Year Total:	15	16

Third Year	Units	
	Fall	Spring
MKTG 3433 Introduction to Marketing (Sp, Su, Fa) <sup>1</sup>	3	
FINN 3043 Principles of Finance (Sp, Su, Fa) <sup>1</sup>	3	
Retail Concentration	3	
Junior Senior Business Electives	6	
MKTG 3553 Consumer Behavior (Sp, Fa)		3
MKTG 4433 Retail Strategy (Sp, Fa)		3
MGMT 3013 Strategic Management (Sp, Su, Fa)		3
Retail Concentration		6
Year Total:	15	15

Fourth Year	Units	
	Fall	Spring
MKTG 4443 Retail Buying and Merchandise (Sp, Fa)	3	
Junior Senior Business Elective	6	
General Education Electives	3	
Retail Concentration		3
Junior Senior Business Elective		3
General Education Electives		9
Year Total:	12	15

Total Units in Sequence: 120

<sup>1</sup> Must be completed prior to MGMT 3013.

<sup>2</sup> Must be completed prior to taking any 3000 or 4000 level business electives.

## Retail Minor for Business Students

The Department of Marketing offers a retail minor for Walton College students desiring more knowledge of retail, to assist them in their careers. The minor requires the completion of 15 hours of study with all of the courses applied toward the minor taken in residence.

The 15 hours include the following courses:

MKTG 3433	Introduction to Marketing (Sp, Su, Fa)	3
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MKTG 3553	Consumer Behavior (Sp, Fa)	3
MKTG 4433	Retail Strategy (Sp, Fa)	3
MKTG 4443	Retail Buying and Merchandise (Sp, Fa)	3
Select one of the following:		3
ECON – Any ECON course at 3000 or 4000 level		
FINN 3013	Financial Analysis (Sp, Su, Fa)	
ISYS 4213	ERP Fundamentals (Sp, Fa)	
MGMT – any MGMT course at the 3000 or 4000 level		
MKTG 3653	Category Management Topics (Irregular)	
MKTG 4233	Integrated Marketing Communications (Sp, Fa)	
SCMT 3613	Supply Management (Sp, Fa)	
Total Hours		15

Students who desire to earn a retail minor must notify the Walton College Undergraduate Programs Office of intent to pursue a minor. All requirements for the minor must be completed prior to the awarding of the student's undergraduate degree. All specific course prerequisites must be met. Each student must have a 2.00 cumulative grade-point average in the courses offered for the minor. All upper level minor requirements must be taken in residence.

## Supply Chain Management (SCMT)

### Faculty

**John Aloysius**, Associate Professor

**Don Bechtel**, Instructor

**Terry L. Esper**, Associate Professor, Oren Harris Chair in Logistics

**Brian Fugate**, Associate Professor, Oren Harris Chair in Transportation

**Sebastian Garcia-Dastugue**, Clinical Assistant Professor

**Christian Hofer**, Associate Professor

**David Graham Hyatt**, Clinical Assistant Professor

**John Kent**, Clinical Assistant Professor

**Siqi Ma**, Instructor

**Saif Mir**, Instructor

**William C. Murphey**, Instructor

**Adriana Rossiter-Hofer**, Associate Professor

**Marc Scott**, Clinical Assistant Professor

**Carole Shook**, Instructor

**Annibal Camara Sodero**, Assistant Professor

**Matthew A. Waller**, Professor, Sam M. Walton Leadership Chair

**Brent D. Williams**, Associate Professor, Garrison Chair in Supply Chain Management

Brian Fugate

Department Chair, 475 WCOB, 479-575-4051

Supply Chain Management Department Website (<https://supplychain.uark.edu>)

The Department of Supply Chain Management offers an undergraduate major leading to a Bachelor of Science in Business Administration degree. The major in supply chain management has two concentrations: Transportation and Logistics, and Retail Supply Chain Management.

The transportation and logistics concentration is designed to prepare students for careers in carrier management and logistics management. Carrier management is the management of domestic and international modes of transportation. Logistic management applies analytical techniques and uses the systems approach in managing the flow of materials into and through the production and manufacturing

processes of a firm to its customers. Basic employment opportunities exist in marketing, sales, and operations positions with carriers in all transportation modes, and in positions with shippers having responsibility in one or more areas under logistics management, warehousing, packaging, and materials handling. Opportunities also exist in governmental agencies.

The retail supply chain management concentration is designed to prepare students for careers at retailers or in companies that manufacture, sell, and distribute consumer goods to retailers. Analytical techniques and the total cost approach will be applied in managing the flow of materials through production and distribution processes and to retailers. There will be an emphasis on business process integration.

## Supply Chain Management Major Requirements

<b>Major Course Requirements</b>	24
SCMT 3443 Transportation and Distribution Management (Sp, Fa)	3
SCMT 3613 Supply Management (Sp, Fa)	3
SCMT 3623 Advanced Inventory Management and Forecasting (Sp, Fa)	3
SCMT 3643 International Transportation and Logistics (Sp, Fa)	3
SCMT 4653 Supply Chain Strategy (Sp, Fa)	3
<b>Concentration Hours</b>	9
Maximum of 27 hours of SCMT courses in department (core, major, elective). More than 27 hours allowed if the extra courses are part of interdisciplinary minor or collateral track.	
<b>Junior/Senior Business Electives</b>	12
<b>Total Hours</b>	60

## Transportation and Logistics Concentration

SCMT 4633 Logistics Provider and Carrier Management (Sp, Fa)	3
Plus two classes from the following:	6
ECON 4633 International Trade (Sp, Fa)	
ECON 4643 International Macroeconomics and Finance (Sp, Fa)	
FINN 3703 International Finance (Sp, Su, Fa)	
ISYS 2263 Principles of Information Systems (Sp, Fa)	
ISYS 3293 Systems Analysis and Design (Sp, Fa)	
ISYS 4213 ERP Fundamentals (Sp, Fa)	
ISYS 4243 Current Topics in Computer Information (Irregular)	
ISYS 4293 Business Intelligence (Sp)	
MGMT 4583 International Management (Sp, Fa)	
MKTG 3633 Marketing Research (Sp, Fa)	
MKTG 4343 Selling and Sales Management (Sp, Fa)	
MKTG 4433 Retail Strategy (Sp, Fa)	
MKTG 4633 Global Marketing (Sp, Fa)	
SCMT 3633 Behavioral Supply Chain Management (Irregular)	
SCMT 4003H Honors Supply Chain Management Colloquium (Irregular)	
<b>Total Hours</b>	9

## Supply Chain Management B.S.B.A. with Transportation and Logistics Eight-Semester Degree Program:

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program.

Courses in BOLD must be taken in the designated semester. Courses in ITALIC may be taken in varied sequences as long as other designated requirements for these courses are met. Although other courses listed are not required to be completed in the designated sequence, the recommendations below are preferred.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2053 Finite Mathematics (Sp, Su, Fa)	3	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3	
WCOB 1111 Freshman Business Connection (Fa)	1	
BLAW 2013 The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa) <sup>1</sup>	3	
ISYS 1120 Computer Competency Requirement (Sp, Su, Fa)	0	
U.S. History or Political Science – University Core	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
ACCT 2013 Accounting Principles (Sp, Su, Fa)		3
WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa)		3
ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)		3
Natural Science – University Core		4
<b>Year Total:</b>	16	16

Second Year	Units	
	Fall	Spring
MGMT 2053 Business Foundations (Sp, Su, Fa) or ACCT 2023 Accounting Principles II (Sp, Su, Fa)	3	
ISYS 2103 Business Information Systems (Sp, Su, Fa) <sup>1</sup>	3	
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) <sup>2</sup>	3	
Social Science – University Core	3	
Fine Art/Humanities – University Core	3	
SCMT 2103 Introduction to Supply Chain Management (Sp, Fa)		3
MGMT 2103 Managing People and Organizations (Sp, Su, Fa) <sup>1</sup>		3
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa) <sup>2</sup>		3
Fine Art/Humanities – University Core		3
Natural Science – University Core		4
ALL pre-business requirements should be met by end of term		



Year Total: 15 16

Third Year	Units	
	Fall	Spring
FINN 3043 Principles of Finance (Sp, Su, Fa) <sup>1</sup>	3	
MKTG 3433 Introduction to Marketing (Sp, Su, Fa) <sup>1</sup>	3	
SCMT 3443 Transportation and Distribution Management (Sp, Fa)	3	
SCMT 3613 Supply Management (Sp, Fa)	3	
Collateral from a Single Area	3	
SCMT 3643 International Transportation and Logistics (Sp, Fa)		3
MGMT 3013 Strategic Management (Sp, Su, Fa)		3
Collateral from a Single Area		3
Junior/Senior Business Electives		3
General Education Electives		3
Year Total:	15	15

Fourth Year	Units	
	Fall	Spring
SCMT 3623 Advanced Inventory Management and Forecasting (Sp, Fa)	3	
SCMT 4633 Logistics Provider and Carrier Management (Sp, Fa)	3	
Junior/Senior Business Elective	3	
General Education Electives	6	
SCMT 4653 Supply Chain Strategy (Sp, Fa)		3
Junior/Senior Business Elective		6
General Education Electives		3
Year Total:	15	12

Total Units in Sequence: 120

<sup>1</sup> Must be completed prior to MGMT 3013.

<sup>2</sup> Must be completed prior to taking any 3000 or 4000 level business courses.

## Supply Chain Management Major Requirements

Major Course Requirements		Units
SCMT 3443	Transportation and Distribution Management (Sp, Fa)	3
SCMT 3613	Supply Management (Sp, Fa)	3
SCMT 3623	Advanced Inventory Management and Forecasting (Sp, Fa)	3
SCMT 3643	International Transportation and Logistics (Sp, Fa)	3
SCMT 4653	Supply Chain Strategy (Sp, Fa)	3
<b>Concentration Hours</b>		<b>9</b>

Maximum of 27 hours of SCMT courses in department (core, major, elective). More than 27 hours allowed if the extra courses are part of interdisciplinary minor or collateral track.

**Junior/Senior Business Electives** 12  
Total Hours 60

## Retail Supply Chain Management Concentration

SCMT 3653	Retail Supply Chain Analysis (Sp, Fa)	3
Plus two courses from the following:		6
ECON 4743	Introduction to Econometrics (Sp)	
ECON 4753	Forecasting (Fa)	
ISYS 4293	Business Intelligence (Sp)	
ISYS 4213	ERP Fundamentals (Sp, Fa)	
MKTG 3633	Marketing Research (Sp, Fa)	
SCMT 3633	Behavioral Supply Chain Management (Irregular)	
SCMT 4003H	Honors Supply Chain Management Colloquium (Irregular)	
Total Hours		9

## Supply Chain Management B.S.B.A. with a concentration in Retail Supply Chain Management

### Eight-Semester Degree Program:

Students wishing to follow the eight-semester degree plan should see Eight Semester Degree Policy in the Academic Regulations chapter for university requirements of the program.

Courses in BOLD must be taken in the designated semester. Courses in ITALIC may be taken in varied sequence as long as other designated requirements for these courses are met. Although other courses listed are not required to be completed in the designated sequence, the recommendations below are preferred.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2053 Finite Mathematics (Sp, Su, Fa)	3	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3	
WCOB 1111 Freshman Business Connection (Fa)	1	
BLAW 2013 The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa) <sup>1</sup>	3	
ISYS 1120 Computer Competency Requirement (Sp, Su, Fa)	0	
U.S. History or Political Science-University Core	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
ACCT 2013 Accounting Principles (Sp, Su, Fa)		3
WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa)		3
ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)		3
Natural Science		4
Year Total:	16	16

Second Year	Units	
	Fall	Spring
MGMT 2053 Business Foundations (Sp, Su, Fa) or ACCT 2023 Accounting Principles II (Sp, Su, Fa)	3	
ISYS 2103 Business Information Systems (Sp, Su, Fa) <sup>1</sup>	3	
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa) <sup>2</sup>	3	
Social Science - University Core	3	
Fine Arts/Humanities - University Core	3	
SCMT 2103 Introduction to Supply Chain Management (Sp, Fa) <sup>1</sup>		3
MGMT 2103 Managing People and Organizations (Sp, Su, Fa) <sup>1</sup>		3
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa) <sup>2</sup>		3
Fine Arts/Humanities - University Core		3
Natural Science - University Core		4
Year Total:	15	16

  

Third Year	Units	
	Fall	Spring
FINN 3043 Principles of Finance (Sp, Su, Fa) <sup>1</sup>	3	
MKTG 3433 Introduction to Marketing (Sp, Su, Fa) <sup>1</sup>	3	
SCMT 3443 Transportation and Distribution Management (Sp, Fa)	3	
SCMT 3613 Supply Management (Sp, Fa)	3	
Collateral course from a single area	3	
SCMT 3643 International Transportation and Logistics (Sp, Fa)		3
MGMT 3013 Strategic Management (Sp, Su, Fa)		3
Collateral course from a single area		3
Junior/Senior Business Electives		3
General Education Electives		3
Year Total:	15	15

  

Fourth Year	Units	
	Fall	Spring
SCMT 3623 Advanced Inventory Management and Forecasting (Sp, Fa)	3	
SCMT 3653 Retail Supply Chain Analysis (Sp, Fa)	3	
Junior/Senior Business Elective	3	
General Education Electives	6	
SCMT 4653 Supply Chain Strategy (Sp, Fa)		3
Junior/Senior Business Electives		6
General Education Electives		3
Year Total:	15	12

  

Total Units in Sequence:	120	
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<sup>1</sup> Must be completed prior to MGMT 3013.<sup>2</sup> Must be completed prior to taking any 3000 or 4000 level business courses.

## Supply Chain Management Minor for Business Students

The Department of Supply Chain Management offers a minor for Walton College students desiring more knowledge of supply chain management to assist them in their careers. The minor requires the completion of 15 hours of study from the following courses:

SCMT 3443	Transportation and Distribution Management (Sp, Fa)	3
SCMT 3613	Supply Management (Sp, Fa)	3
SCMT 3623	Advanced Inventory Management and Forecasting (Sp, Fa)	3
SCMT 3633	Behavioral Supply Chain Management (Irregular)	3
SCMT 3643	International Transportation and Logistics (Sp, Fa)	3
SCMT 3653	Retail Supply Chain Analysis (Sp, Fa)	3
SCMT 4103	Special Topics in Supply Chain Management (Irregular)	3
SCMT 4633	Logistics Provider and Carrier Management (Sp, Fa)	3
SCMT 4653	Supply Chain Strategy (Sp, Fa)	3
ISYS 4213	ERP Fundamentals (Sp, Fa)	3

Students who desire to earn a Supply Chain Management minor must notify the Walton College Undergraduate Programs Office of intent to pursue a minor. All requirements for the minor must be completed prior to the awarding of the student's undergraduate degree. All specific course prerequisites must be met. Each student must have a 2.00 cumulative grade-point average in the courses offered for the minor. All upper level minor requirements must be taken in residence.

## Walton College of Business (WCOB)

### Faculty

**Greg Norris**, Professor

**Heather Sprandel**, Instructor

Undergraduate Programs, 328 WCOB, 479-575-4622

Walton College offers three minor programs for business majors that are interdisciplinary and not attached to a specific department in the college. Requirements for each of the three minors are listed under the tabs.

Similarly, courses that are interdisciplinary and not assigned to a specific department in Walton College are listed here under the WCOB subject code.

### Enterprise Resource Planning Minor

The Walton College offers an interdisciplinary minor in Enterprise Resource Planning (ERP). ERP systems are large-scale programs, which are used by many large companies to integrate their business processes and run the organization using primarily one software system. The minor requires completion of 15 hours of study with all of the upper division courses applied toward the minor taken in residence. The 15 hours include:

ISYS 4213	ERP Fundamentals (Sp, Fa)	3
ISYS 4223	ERP Configuration and Implementation (Fa)	3
Select three of the following:		9

ACCT 3533	Accounting Technology (Sp, Fa)	
ACCT 3723	Intermediate Accounting I (Sp, Fa)	
ISYS 4233	Seminar in ERP Development (Sp)	
SCMT 3443	Transportation and Distribution Management (Sp, Fa)	
SCMT 3613	Supply Management (Sp, Fa)	
SCMT 3623	Advanced Inventory Management and Forecasting (Sp, Fa)	
Total Hours		15

Students who desire to earn an Enterprise Resource Planning minor must notify the Walton College Undergraduate Programs Office of intent to pursue a minor. All requirements for the minor must be completed prior to the awarding of the student's undergraduate degree. All specific course prerequisites must be met. Each student must have a 2.00 cumulative grade-point average in the courses offered for the minor. All upper level minor requirements must be taken in residence.

## Financial Economics Minor

The Walton College offers an interdisciplinary minor in Financial Economics. The minor will provide students with the background needed for research in finance and industry. The minor requires completion of 15 hours of study with all of the upper division courses applied toward the minor taken in residence. The 15 hours include:

FINN 3013	Financial Analysis (Sp, Su, Fa)	3
ECON 4753	Forecasting (Fa)	3
Select three of the following:		9
FINN 3063	Investments (Sp, Su, Fa)	
FINN 3603	Corporate Finance (Sp, Su, Fa)	
ECON 3433	Money and Banking (Irregular)	
ECON 4743	Introduction to Econometrics (Sp)	
Total Hours		15

Students who desire to earn a Financial Economics minor must notify the Walton College Undergraduate Programs Office of intent to pursue a minor. All requirements for the minor must be completed prior to the awarding of the student's undergraduate degree. All specific course prerequisites must be met. Each student must have a 2.00 cumulative grade-point average in the courses offered in the minor. All upper level minor requirements must be taken in residence.

## Nonprofit Studies Minor

The Walton College offers an interdisciplinary minor in Nonprofit Studies. This minor will prepare students for working in the nonprofit sector as well as educating students who may be on boards and participate in other civic organizations. The minor requires completion of 15 hours of study with all of the upper division courses applied toward the minor taken in residence. The 15 hours include:

MKTG 4513	Nonprofit Marketing (Sp, Fa)	3
SCMT 4853	Cross-Sector Collaboration for Sustainability (Sp)	3
Select three courses from the following:		9
ACCT 4703	Governmental/Nonprofit Accounting (Irregular)	
WCOB 310V	Cooperative Education (Sp, Su, Fa)	
PLSC 300V	Internship in Public Affairs (Sp, Su, Fa)	
WCOB 3023	Sustainability in Business (Irregular)	
MGMT 4243	Ethics and Corporate Responsibility (Sp, Fa)	

MGMT 4253	Leadership (Sp, Fa)	
MGMT 4263	Organizational Change and Development (Sp, Fa)	
ECON 3843	Economic Development, Poverty & the Role of the World Bank and IMF in Low-Income Countries (Sp, Fa)	
PLSC 4853	International Norms and Corporate Social Responsibility (Sp)	
PLSC 3103	Public Administration (Sp)	
SOCI 4013	Special Topics in Sociology (Sp, Fa)	
Total Hours		15

Students who desire to earn a Nonprofit Studies minor must notify the Walton College Undergraduate Programs Office of intent to pursue a minor. All requirements for the minor must be completed prior to the awarding of the student's undergraduate degree. All specific course prerequisites must be met. Each student must have a 2.00 cumulative grade-point-average in the courses offered for the minor. All upper division level minor requirements must be taken in residence.

## Minors for Non-Business Students

For students who are business majors, the requirements for business minors are listed with each major business program.

To facilitate students outside Walton College in obtaining knowledge that will assist them in making sustained contributions to organizations and society in a global, diverse, and dynamic environment, the Walton College offers a business minor for non-business majors. The minor requires completion of 21 required hours of study (including equivalencies) with at least 50 percent of the courses applied toward the minor taken in residence. Each student must have a 2.00 cumulative grade-point average in the courses offered for the minor.

Non-business, degree-seeking students working toward a minor should note the following:

1. Students who elect to obtain a business minor must provide written notice of their intent to the dean's office of the college in which they are receiving a degree. This notice and all requirements for the business minor must be completed prior to the awarding of the student's undergraduate degree.
2. Business minor students must complete all 1000- and 2000-level courses required for the business minor and be a junior- or senior-level student to enroll in 3000- or 4000-level business courses.
3. All specific course prerequisites must be met. Although business minor students are not required to satisfy the entire pre-business core, they must complete the required courses and any other prerequisite course specified prior to enrolling in a 3000/4000-level course.
4. Business minor students may complete multiple minors with the exception of General Business and an additional area of business study. Students may not use more than three hours of minor courses toward additional minor requirements.
5. ECON 2143 will substitute for ECON 2013/ECON 2023 for prerequisite purposes. In addition, students who take both ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa) and ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa) will satisfy the economics requirements of the minor.

6. Business minor students are ineligible to take MGMT 3013 Strategic Management (Sp, Su, Fa).
7. ECON 3053 and WCOB 3043 may not count toward the junior- or senior-level course requirements for the minor.
8. All equivalencies must be approved by the assistant dean for undergraduate programs.
9. Students may choose to pursue Concentration 1—General Business online, as long as they adhere to the requirements for online programs (p. 372).

All upper level minor requirements must be taken in residence. All students seeking a business minor are required to complete the Walton College computer competency requirement ISYS 1120 and the following courses:

ECON 2143	Basic Economics: Theory and Practice (Sp, Su, Fa)	3
ACCT 2013	Accounting Principles (Sp, Su, Fa)	3
WCOB 1033	Data Analysis and Interpretation (Sp, Su, Fa)	3
Total Hours		9

In addition, students must select and complete one of the following concentrations:

#### Requirements for General Business Minor

Select four of the following (at least 6 hours must be at the 3000 or 4000 level):

BLAW 2013	The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa)	3
ISYS 2103	Business Information Systems (Sp, Su, Fa)	3
SCMT 2103	Introduction to Supply Chain Management (Sp, Fa)	3
MGMT 2103	Managing People and Organizations (Sp, Su, Fa)	3
FINN 3043	Principles of Finance (Sp, Su, Fa)	3
MKTG 3433	Introduction to Marketing (Sp, Su, Fa)	3
Plus any other 3000- to 4000-level Walton College course (except WCOB 3043)		3
Total Hours		12

#### Requirements for Accounting Minor

ACCT 2023	Accounting Principles II (Sp, Su, Fa)	3
ACCT 3723	Intermediate Accounting I (Sp, Fa)	3
Plus an additional 6 hours from the following:		6
ACCT 3533	Accounting Technology (Sp, Fa)	3
ACCT 3753	Intermediate Accounting II (Sp)	3
ACCT 3843	Fundamentals of Taxation I (Sp, Fa)	3
ACCT 4673	Product, Project and Service Costing (Fa)	3
ACCT 4963	Audit and Assurance Services (Sp)	3
Total Hours		12

#### Requirements for Business Economics Minor

ECON 3033	Microeconomic Theory (Sp, Su, Fa)	3
ECON 3133	Macroeconomic Theory (Sp, Fa)	3
Plus an additional 6 hours of 3000- to 4000-level business economics courses		6
Total Hours		12

#### Requirements for Enterprise Resource Planning Minor

ACCT 2023	Accounting Principles II (Sp, Su, Fa)	3
FINN 3043	Principles of Finance (Sp, Su, Fa)	3
ISYS 4213	ERP Fundamentals (Sp, Fa)	3
SCMT 2103	Introduction to Supply Chain Management (Sp, Fa)	3
Select an additional 3 hours from the following:		3
ISYS 4223	ERP Configuration and Implementation (Fa)	3
ISYS 4233	Seminar in ERP Development (Sp)	3
ISYS 4293	Business Intelligence (Sp)	3
Total Hours		15

#### Requirements for Enterprise Systems Minor

ISYS 4453	Introduction to Enterprise Servers (Fa)	3
ISYS 4463	Enterprise Transaction Systems (Sp)	3
Plus an additional 6 hours from the following:		6
ISYS 4213	ERP Fundamentals (Sp, Fa)	3
ISYS 4223	ERP Configuration and Implementation (Fa)	3
ISYS 4233	Seminar in ERP Development (Sp)	3
ISYS 4293	Business Intelligence (Sp)	3
Total Hours		12

#### Requirements for Finance Minor

FINN 3043	Principles of Finance (Sp, Su, Fa)	3
Plus an additional 9 hours of 3000- to 4000-level finance courses		9
Total Hours		12

#### Requirements for Information Systems Minor

ISYS 3293	Systems Analysis and Design (Sp, Fa)	3
ISYS 3393	Business Application Development Fundamentals (Sp)	3
Plus an additional 3 hours from the following:		3
ISYS 4213	ERP Fundamentals (Sp, Fa)	3
ISYS 4223	ERP Configuration and Implementation (Fa)	3
One 3-hour 4000-level ISYS course		3
Total Hours		12

#### Requirements for International Business Minor

ECON 4633	International Trade (Sp, Fa)	3
ECON 4643	International Macroeconomics and Finance (Sp, Fa)	3
Plus an additional 6 hours from the following:		6
ECON 3843	Economic Development, Poverty & the Role of the World Bank and IMF in Low-Income Countries (Sp, Fa)	3
ECON 3853	Emerging Markets (Fa)	3
ECON 3933	The Japanese Economic System (Sp)	3
ECON 468V	International Economics and Business Seminar (Irregular)	3
FINN 3703	International Finance (Sp, Su, Fa)	3
MGMT 4583	International Management (Sp, Fa)	3
MKTG 4633	Global Marketing (Sp, Fa)	3

SCMT 3643	International Transportation and Logistics (Sp, Fa)	
Total Hours		12

#### Requirements for Management Minor

MGMT 4243	Ethics and Corporate Responsibility (Sp, Fa)	3
Plus an additional 9 hours of 3000/4000 level management courses (may include MGMT 2103 or MGMT 3563)		9
Total Hours		12

#### Requirements for Marketing Minor

MKTG 3433	Introduction to Marketing (Sp, Su, Fa)	3
Select an additional 9 hours from the following:		9
MKTG 3553	Consumer Behavior (Sp, Fa)	
MKTG 3633	Marketing Research (Sp, Fa)	
MKTG 4233	Integrated Marketing Communications (Sp, Fa)	
MKTG 4343	Selling and Sales Management (Sp, Fa)	
MKTG 4433	Retail Strategy (Sp, Fa)	
MKTG 4443	Retail Buying and Merchandise (Sp, Fa)	
MKTG 4633	Global Marketing (Sp, Fa)	
SCMT 3613	Supply Management (Sp, Fa)	
Total Hours		12

#### Requirements for Retail Minor

MKTG 3433	Introduction to Marketing (Sp, Su, Fa)	3
MKTG 4433	Retail Strategy (Sp, Fa)	3
MKTG 3553	Consumer Behavior (Sp, Fa)	3
MKTG 4443	Retail Buying and Merchandise (Sp, Fa)	3
Total Hours		12

#### Requirements for Supply Chain Management Minor

SCMT 3443	Transportation and Distribution Management (Sp, Fa)	3
SCMT 3613	Supply Management (Sp, Fa)	3
SCMT 3633	Behavioral Supply Chain Management (Irregular)	3
SCMT 3643	International Transportation and Logistics (Sp, Fa)	3
Total Hours		12

## College of Education and Health Professions

### Mission and Objectives

The mission of the College of Education and Health Professions is to enhance the quality of life of the citizens of Arkansas, the nation, and the world through the development of scholar-practitioners in education, health, and human services.

The goals of the College of Education and Health Professions are to:

- Strengthen the academic quality and reputation of the college by developing and enhancing programs of excellence in teaching, research, and service.
- Improve the quality and diversity of our students, faculty, and staff.

- Generate increased private and public support for the college's research, academic, and service initiatives.

## Facilities and Resources

### The Sylvia Hack Boyer Center for Student Services

The office houses the Office of Field Placement and Licensure, and Student Assessment (including the Chalk and Wire helpdesk). The Center also provides support to the academic departments as they pursue state and national accreditation.

### Organization

For administrative purposes, the undergraduate programs of the college are organized under four academic units, with majors shown after each unit:

1. Curriculum and Instruction
  - a. Career and Technical Education
  - b. Childhood Education
  - c. Educational Studies
  - d. Elementary Education
  - e. Special Education
2. Eleanor Mann School of Nursing
  - a. Nursing
3. Health, Human Performance and Recreation
  - a. Kinesiology
  - b. Public Health
  - c. Recreation and Sport Management
4. Rehabilitation, Human Resources, and Communication Disorders
  - a. Communication Disorders
  - b. Human Resource and Workforce Development

### Facilities

The Graduate Education Building, Peabody Hall, Epley Center for Health Professions, and the Health, Physical Education and Recreation Building serve as the nucleus of the College of Education and Health Profession's activities. An auditorium, several conference and seminar rooms, classrooms, and offices for individual professors, along with administrative and service units such as the Dean's office and computer laboratory are housed in the Graduate Education Building.

Peabody Hall houses the Department of Curriculum and Instruction, classrooms and offices for individual professors. The Health, Physical Education and Recreation (HPER) Building houses the majority of faculty offices and classrooms for Athletic Training, Community Health Promotion, Kinesiology, Recreation and Sport Management, the Office for Studies on Aging, the Human Performance Laboratory, and the University Recreation offices.

The department of University Recreation serves the university community by providing a diverse selection of recreational opportunities and facilities that are designed to enhance the quality of life of each participant. University Recreation is organized into eight program area: Accessible Recreation, Club Sports, Facility Management, Fitness/Wellness, Instructional Programs, Intramural Sports, and the Outdoor Connection Center. University Recreation operates its main facility in the Health, Physical Education and Recreation Building, which houses an Olympic-

sized swimming pool, multiple gymnasiums, an indoor track, the Donna Axum Fitness Center, racquetball courts and the Outdoor Connection Center. In addition to the HPER building, UREC also operates the University Recreation Fitness Center, located on the second floor of the Arkansas Union, which features almost 6,000-square feet of fitness floor space, a 1,500-square foot group exercise room, and men's and women's locker and shower facilities. Memberships may be purchased by university faculty, staff and alumni for both the HPER Building and the University Recreation Fitness Center. For additional information, please visit the department of University Recreation website (<http://urec.uark.edu>).

The Communication Disorders program and the Speech and Hearing Clinic are housed in Epley Center for Health Professions. The clinic contains faculty offices, a classroom, a graduate seminar room, teaching and research laboratories, and space and facilities for the provision of services to the speech, language, and hearing impaired. University services are provided through the clinic to university students and the community.

The Eleanor Mann School of Nursing is also housed in Epley Center for Health Professions. The nursing program facilities include administrative offices, faculty offices, two classrooms, simulation laboratories, a conference room, and a computer classroom. The school has affiliation agreements for clinical practice with area health care agencies.

The West Avenue Annex building houses research and service units: the National Office for Research, Measurement and Evaluation Systems (NORMES), the Center for Mathematics and Science Education (CMASE), the Center for Children and Youth, the Arkansas Leadership Academy (ALA) and the Office for Innovation in Education (OIE). Established in 1991, the Arkansas Leadership Academy is a nationally recognized statewide partnership of 13 universities, 9 professional associations, 15 educational cooperatives, the Arkansas Departments of Education, Higher Education, and Workforce Education, the Arkansas Educational Television Network, Tyson Foods Inc., Wal-Mart Stores Inc., and the Walton Family Foundation. The National Office for Research, Measurement, and Evaluation Systems conducts targeted educational research focusing on issues affecting students in Arkansas and general theoretical work in statistics, testing, and educational measurement. The Center for Mathematics and Science Education provides quality resources to private and public educators. The center also serves as the Arkansas NASA Educator Resource Center, disseminating educational materials provided by NASA. The Office for Innovation in Education is funded by the Arkansas Department of Education to develop and test new approaches to deliver and assess K-12 education innovations.

Established in 1974, the Center for the Utilization of Rehabilitation Resources for Education, Networking, Training and Service (CURRENTS) provides customized training and consulting for organizations ranging from large state agencies to small not-for-profits and is nationally recognized for the high level of commitment and responsiveness to their customers and their efforts to expand, improve, and strengthen services to people with disabilities. The center is located at the Arkansas School for Mathematics, Sciences and the Arts, Hot Springs, Arkansas.

## Academic Journals

The college is host to the *Journal of Research & Policy Studies* and the *Journal of Organizational Learning and Leadership*, edited by Michael Miller, a professor of higher education.

## Degrees Offered

The college offers curricula leading to three degrees - the Bachelor of Science in Education degree (B.S.E.), the Bachelor of Science (B.S.), and the Bachelor of Science in Nursing (B.S.N.). Some of these degree programs have concentrations and specialties that are described within their section(s).

## College Admission Requirements

All entering students (including freshmen, international, and transfer) admitted to the University of Arkansas, Fayetteville, are eligible for admission to the college.

## Transfer of Credit

The policies controlling the granting of credit for course work taken at other institutions apply as follows:

1. Courses completed at the lower-division (freshman or sophomore) level at another institution may not count as equivalents of upper-division (junior or senior) level courses offered in the college unless student requests program modification with proper petition approvals.
2. Students should be prepared to submit official course descriptions of transfer course work if there is any question as to whether the college will grant degree credit for such work.

## Undeclared Majors

Students enrolled in the College of Education and Health Professions are encouraged to declare a major as soon as possible. For assistance contact the Office of Academic Affairs, 317 Graduate Education Building, 479-575-4203.

## College Scholarships

The College of Education and Health Professions offers a number of scholarships in varying amounts. Recipient selection is based on a variety of attributes that are specific to each award. Attributes may include but are not limited to: the basis of promise, character, leadership skills, scholarship, or financial need.

Scholarship applications are available in December or January of each year via the College website (<http://coehp.uark.edu>). All current and future students of the college are strongly encouraged to take advantage of these scholarship opportunities. For further information regarding scholarships and the application process, visit the Scholarships link on the College of Education and Health Professions' web site or contact the Dean's office.

## Student Organizations

There are many general-interest societies and organizations on the campus, and nearly every department of the university maintains an honor society through which high scholarship is rewarded. Of special interest to students in the college are the following:

- Eta Sigma Gamma - honor society for Public Health
- Kappa Delta Pi – honor society for education
- Phi Delta Kappa – honor fraternity for graduate students
- Kinesiology Club – for kinesiology majors
- Recreation and Sport Management Majors Club – for recreation and sport management students
- Razorback Athletic Training Association (RATA) – for undergraduate kinesiology majors with a concentration in exercise science – pre-

athletic training, entry level graduate athletic training students and graduate assistant athletic trainers in women's and men's athletics

- National Student Speech-Language-Hearing Association – for communication disorders majors
- Arkansas Nursing Students Association, National Student Nurse Association, and the Pi Theta chapter of Sigma Theta Tau International Honor Society of Nursing – for nursing majors

## College Academic Regulations

### Admission Process for Initial Teacher Licensure

#### Stage I: Enrollment

Enroll in an undergraduate degree program leading to a potential teacher licensure field. Potential fields include the following:

- Agricultural Education – B.S.A.
- Art Education – B.F.A.
- Career & Technical Education (Business Education) – B.S. E. Licensure Program
- Career & Technical Education (Family & Consumer Science) – B.S. E. Licensure Program
- Career & Technical Education (Technology Education) – B.S. E. Licensure Program
- Childhood Education – B.S.E.
- Elementary Education – B.S.E. Licensure Program
- Human Environmental Sciences Education – B.S.H.E.S.
- Kinesiology K-12 – B.S. Licensure Program
- Music Education – B.M.
- Secondary Education – B.A., B.S.
- Special Education - B.S.E. Licensure Program
- Speech-Language Pathology – B.S.

#### Stage II: Admission to Teacher Education

Complete the Admission to Teacher Education application on the Office of Field Placement and Licensure website (<http://teacher-education.uark.edu/admissions>) for details. Satisfactory completion of this form does not guarantee admission to the student teaching semester or the Masters of Arts in Teaching (M.A.T.) degree program or other teacher education programs.

#### Stage III: Program Admission

The following minimum criteria are necessary to be eligible for consideration for admission to a teacher education program:

1. Meet all requirements in stages I and II.
2. Consult with faculty adviser for additional requirements set by the chosen program.

### Initial Licensure

Students who have completed the stages listed above must obtain a licensure packet from the Teacher Certification Officer, 338 Graduate Education Building, prior to entering internship/student teaching. A mandatory meeting is held each semester before starting either an internship or a student teaching experience.

Students should always consult the Teacher Certification Officer or adviser regarding licensure requirement changes. Students will not be

licensed to teach in Arkansas until they have met all requirements for licensure as set forth by the Arkansas Department of Education.

### College Honor Roll

At the close of each semester, the college recognizes students who qualify for the honor roll. They are the 10 percent of the highest-ranking students in each class. Students must carry a minimum of 12 semester hours to be eligible for the Honor Roll and obtain a minimum term GPA of 3.5.

### Graduation with Distinction

Graduation with Distinction will be conferred to College of Education and Health Professions students (who are not participating in the college "Honors Program") based upon their University of Arkansas cumulative grade-point average at the time of graduation. To earn this distinction, a student must have completed at least one-half of the course work required for his or her degree at the University of Arkansas, Fayetteville. The graduation with distinction designation will be assigned as follows:

1. For highest distinction, the student must have a minimum cumulative grade point average of 3.95 and rank in the top 10 percent of the graduating class.
2. For high distinction, the student must have a minimum cumulative grade point average of 3.75 and rank in the top 10 percent of the graduating class.

## Degree Requirements

### Minimum Requirements for the B.S.E. or B.S. or B.S.N. Degree

The candidates for a baccalaureate degree from the college must meet university requirements, which specify at least 120 semester hours of work with a grade-point average of at least 2.00 on all work attempted in the university. Students exempting any course must still meet the 120-hour graduation requirement and should consult their adviser for specific program requirements. Exemption of courses does not result in credit earned. The students must comply with the prescriptions and restrictions listed below and under General Studies and must complete the requirements in one or more of the approved degree programs.

Students must also meet all other university requirements for graduation, including the University Core requirements (p. 81). Students are required to have a pre-graduation check at least one semester prior to the graduation term. Students who complete the pre-graduation check and meet all university and College of Education and Health Professions requirements may apply for graduation under the guidelines detailed on the Graduation Requirements page (p. 75). All course work, university requirements, and college requirements must be completed by the deadline for the term in which applied. Students not graduating in spring, but wishing to participate in the spring commencement ceremony, must apply for graduation by the established priority deadline for the spring term. For clarification, please contact the Sylvia Hack Boyer Center for Student Services, 336 Graduate Education Building, at 479-575-4203.

## Graduate Studies

The Graduate School, in cooperation with the college, offers advanced work in education and health professions leading to the degrees of Master of Arts in Teaching, Master of Science, Master of Education, Educational Specialist, Doctor of Education, and Doctor of Philosophy.

The graduate programs include:

- Adult and Lifelong Learning
- Athletic Training
- Childhood Education
- Communication Disorders
- Community Health Promotion
- Counselor Education
- Curriculum and Instruction
- Educational Leadership
- Educational Statistics and Research Methods
- Educational Technology
- Education Policy
- Elementary Education
- Higher Education
- Human Resource and Workforce Development
- Kinesiology
- Middle-Level Education
- Nursing
- Physical Education
- Recreation and Sport Management
- Rehabilitation
- Secondary Education
- Special Education

The Graduate School awards the graduate degrees. Students who are interested in registering for graduate courses or in becoming candidates for these degrees should consult the dean of the Graduate School and the Graduate School Catalog.

Students who plan to study for an advanced degree in the subject-matter field should consult with the head of the department concerning course requirements to be eligible to begin graduate study. Specialization requirements for a B.S.E. degree in the College of Education and Health Professions may not be sufficient in every field to gain admission for graduate study without deficiencies.

## Accreditations

The University of Arkansas holds membership in and is accredited by the North Central Association of Colleges and Secondary Schools. The college is also a member of the American Association of Colleges for Teacher Education.

The graduate program in communication disorders is accredited by the Council on Academic Accreditation of the American Speech-Language-Hearing Association, but the program is currently on probation. Find out more in the Graduate Catalog (<http://catalog.uark.edu/graduatecatalog/programsofstudy/communicationdisorderscdis>).

The counselor education graduate program is nationally accredited through the Council for the Accreditation of Counseling and Related Educational Programs (CACREP).

The Bachelor of Science in Nursing (B.S.N.) degree program is accredited by the Commission on Collegiate Nursing Education. It is also approved by the Arkansas State Board of Nursing.

The M.S. degree program in Rehabilitation Counseling is accredited by the Council on Rehabilitation Education (CORE). Graduates of the

accredited program are eligible to sit for the Certified Rehabilitation Counselor (CRC) examination.

The B.S. degree program in Public Health is accredited by the Council on Education for Public Health (CEPH).

The teacher education program of the College of Education and Health Professions is accredited by the Council for the Accreditation of Educator Preparation (CAEP). This accreditation covers the initial teacher preparation programs and/or advanced educator preparation programs. Because of the accreditation by the Council for the Accreditation of Educator Preparation, students who complete the curricula as outlined in this catalog are eligible to be recommended for licensure in states that agree to certify graduates who are recommended by the College of Education and Health Professions as having fulfilled its requirements. Students who complete the approved program of study leading to initial licensure are eligible to receive licenses to teach at the grade level or in the fields for which they have made preparation upon application and presentation of acceptable scores on the appropriate Praxis exams. However, students must follow licensure guidelines set forth by the Arkansas Department of Education to be licensed to teach.

## Office of the Dean of the College

324 Graduate Education Building, 479-575-3208

### Dean of the College

Michael T. Miller

### Associate Dean for Academic and Student Affairs

Ketevan Mamiseishvili

### Interim Assistant Dean for Administration

Jeremy Battjes

### Assistant Dean

Fran Hagstrom

### Director of Academic Student Affairs

Denise Bignar

## Sylvia Hack Boyer Center for Student Services

336 Graduate Education Building, 479-575-4203

## Teacher Education/Licensure

338 Graduate Education Building, 479-575-6740

## Honors Program

317 Graduate Education Building

Michelle Gray, Director 479-575-2975

## Speech and Hearing Clinic

606 North Razorback Road, 479-575-4509

**World Wide Web:** [coehp.uark.edu](http://coehp.uark.edu)

Below the majors, concentrations and minors are listed the requirements for teaching licensure.



# Majors, Concentrations and Minors

## Majors and Concentrations

- Career and Technical Education (p. 424)
  - Business Education
  - Family and Consumer Sciences Education
  - Technology Education
- Childhood Education (p. 431)
- Communication Disorders (p. 442)
- Educational Studies (p. 445)
- Elementary Education (p. 454)
- Human Resource and Workforce Development (p. 457)
- Kinesiology (p. 459)
  - Exercise Science
  - K-12 Teaching Physical Education/Wellness & Leisure
- Nursi (p. 446)ng (p. 446)
- Public Health (p. 464)
- Recreation and Sport Management (p. 466)
- Special Education (p. 468)

## Minors

- Rehabilitation/Addiction Studies (p. 467)
- UTeach (p. 444)

Undergraduate students in the college may declare any official academic minor available at the University of Arkansas. Students must notify the Sylvia Hack Boyer Center for Student Services of their intent to pursue a minor. The college, with the assistance of the college offering the minor, will certify that the requirements of the minor have been satisfied. The academic minor will be designated on the student's official transcript. Requirements for the minor are listed in the catalog under the department offering the minor.

Other Programs

## Curricula Offered For Initial Licensure

**Nursing Licensure:** Completing the minimum requirements for the degree of Bachelor of Science in Nursing will satisfy the academic requirements for licensure as a Registered Professional Nurse. Students must complete all of the requirements set forth by the Arkansas State Board of Nursing to be licensed as a registered nurse. See adviser for details.

### Teacher Licensure and Licensure of other School Personnel:

The University of Arkansas offers approved undergraduate programs of study for initial licensure in childhood education, career and technical education (business education, family and consumer science, technology education), kinesiology (P-12 physical education), school counseling, special education, speech-language pathology, music and art education, and agriculture education, initial teacher licensure programs in secondary education (English/language arts, drama/speech, social studies, science, mathematics, world language), and childhood education in the Masters of Arts In Teaching (M.A.T.) degree program. The M.A.T. degree program is offered in consecutive summer, fall, and spring semesters with initial enrollment in the summer semester. The M.A.T. is a graduate degree program and requires a minimum of 33 semester hours. The M.A.T.

degree program has two areas of emphasis: childhood education and secondary education in drama/speech, English, foreign language, mathematics, science and social studies. Consult the Admissions Process for Initial Teacher Licensure Stages I-III and the Graduate School Catalog for admission and graduation requirements for the M.A.T. degree program. The approved program of study for initial licensure in speech-language pathology is the Master of Science degree in Communication Disorders. Procedures for obtaining licensure parallel those used with M.A.T. graduates. There are some non-M.A.T. licensure programs. See the appropriate sections of this catalog for that information. For bachelor's degree licensure requirements in career and technical education, music and art education, and some areas of agriculture education, see appropriate sections of this catalog.

The State Board of Education issues the regulations governing the licensure of teachers in Arkansas. The Board specifies minimum cut-off scores for all Praxis exams. Each application for a teacher's license requires completion of an approved program of study, completion of a state and national background check, and documentation of passing the Praxis exams. Those wishing to add an additional license or endorsement, should contact the Teacher Certification Officer in 338 Graduate Education Building for the approved programs of study or go to the menu "Additional Licensure Plan (<http://coehp.uark.edu/licensure.html>)" on the college's website.

University Teacher Education Board

The University Teacher Education Board is composed of the associate deans; faculty representatives from the College of Education and Health Professions; the J. William Fulbright College of Arts and Sciences; the Dale Bumpers College of Agricultural, Food and Life Sciences; public school teachers and/or administrators, and students. The functions are to (1) govern the teacher education and licensure program; (2) establish general policies and procedures necessary to maintain quality in degree programs; (3) oversee the general coordination of the initial licensure process; and (4) approve new courses and course changes in individual licensure program. The Board serves as a liaison for the faculties involved and emphasizes the importance of teacher education as one of the primary responsibilities of the university.

## Honors Program

The College of Education and Health Professions (COEHP) Honors Program is designed for students who value and want to be challenged by an exceptional educational experience and want to focus their studies intensively. The program creates and supports an academic environment of intellectual adventure and provides a carefully integrated and demanding curriculum. The rewards are immense: high academic achievement; involvement in undergraduate research; academic distinction of *summa cum laude*, *magna cum laude*, or *cum laude* and confirmation of an honors degree on the student's transcript; and recognition at commencement.

The mission of the Honors Program is to: establish and maintain an Honors community of learning that is intellectually rigorous, personally and culturally enriching, and fosters learning and discovery through independent and collaborative inquiry; allow students to be creative, inquisitive and innovative; support student research and analysis of ideas; support student academic ventures through mentoring, travel, and supplies when presenting work at undergraduate research symposia; challenge students to connect the classroom with the larger world by expanding social and cultural experiences and promoting leadership,

and prepare students for admission to and success within graduate and professional schools in the United States and abroad.

Benefits of participating in the Honors Program include: small class sizes, close contact with talented faculty, opportunity for independent study that counts toward the requirements of the Honors Program, special academic counseling and priority registration, increased confidence and skill in writing, honors housing, recognition on transcript as “Graduate of the University Honors Program,” enhanced career opportunities, and increased advantages for graduate or professional school applicants.

Admission to the University of Arkansas Honors College assures automatic admission to the COEHP Honors Program for incoming freshmen. The student can apply for admission electronically through the following website: <http://honorscollege.uark.edu/512.php>. The following are admission criteria for students seeking admission to the COEHP Honors Program:

### Entering Freshmen

- 28 ACT or 1240 SAT score (Critical Reading plus Math). Honors admission is based on your highest composite ACT or SAT score, not on superscores.
- 3.5 or greater high school GPA

### Students Applying as Continuing or Transfer

(within and outside the University of Arkansas)

1. 3.5 cumulative GPA
2. Applications will not be accepted from students who are within three full semesters of anticipated graduation date.
3. The minimum GPA requirement for UA students who have already been accepted into an Honors Program in another college and are transferring to the College of Education and Health Professions is:

- 3.50 cGPA

At the end of each semester, the Honors College will review the academic records of all enrolled honors students to determine whether each one has the cumulative grade-point average to continue in the program. Students with less than a 3.5 GPA will be placed on a one-term probation. If the minimum GPA has not been achieved at the end of the probationary term, the student will be dismissed from the Honors Program. Students will be dismissed from the Honors Program if they violate the university's Academic Integrity policy at a violation level of 1.0. If the student's violation level is above 1.0, the student will lose financial scholarships as well.

### Honors Degrees

The College of Education and Health Professions is dedicated to providing programs designed to meet the honors student's needs. To achieve this aim, the college faculty has developed the COEHP College Honors - an honors program for students of superior academic talent. Students successfully completing the COEHP College Honors will receive the following academic accolades:

- GPA > 3.9 – *summa cum laude*
- GPA > 3.7 – *magna cum laude*
- GPA > 3.5 – *cum laude*

**Requirements for the COEHP College Honors:** Requirements for the COEHP College Honors include meeting all university, COEHP, and department degree requirements; completion of a minimum total of 18

honors hours; completion of honors requirements including preparation and oral defense of an honors thesis; and a minimum cumulative grade-point average of 3.5.

**Additional breakdown for awarding College Honors:** a minimum of 6 honors credit hours from within the student's major plan of study (not to include thesis and tutorial hours); combined with a minimum of 8 credit hours completed either inside or outside of the student's major plan of study; plus 3 credit hours of thesis and hour of tutorial credits.

For more information about the honors program or to complete an application form, please refer to the college's honors Web page at <http://hono.uark.edu/>.

## Career and Technical Education (CATE)

### Faculty

**Vinson R. Carter**, Assistant Professor

**Michael Daugherty**, Professor

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The program in Career and Technical Education offers a degree program leading to a Bachelor of Science in Education for the preparation of teachers, supervisors, and administrators in career and technical education. Students must choose one of three concentrations, each of which leads to teacher licensure:

- The concentration in Business Education offers on-campus students the chance to become effective educators and communicators as they learn to teach the latest computer technologies and subject matter focused on the core areas of business. The concentration provides rigorous and intellectually stimulating programs that offer students a broad variety of professional careers in business education and technology.
- The concentration in Family and Consumer Sciences Education offers on-campus students the ability to learn critical and creative thinking skills through a variety of courses including parenting and human development; family studies; nutrition and foods; textiles and apparel production; and housing and design. The diverse curriculum offers studies that mirror real life, enabling students in this concentration to develop both personal and professional skills.
- The concentration in Technology Education prepares students to teach technology, pre-engineering, or other technical subject matter at the high school, middle-level, or community college. Additionally, the program prepares students to enter mid-level technical/management careers in business and industry.

Admission to the B.S.E. in Career and Technical Education is competitive and admission will be determined by the Career and Education faculty based on the items listed with the concentration requirements. Students seeking admission to the Career and Technical Education program at the University of Arkansas must be aware of the deadlines and admissions policies. These deadlines and limitations are designed to ensure that all students have a high quality experience.

The University of Arkansas program in career and technical education has been approved by the State Board for Career and Technical Education for the preparation of teachers, supervisors, and administrators in career and technical education.

## Requirements for B.S.E. in Career and Technical Education with Business Education Concentration

### Stage I: Pre-Admission

1. Obtain a GPA of 2.7 or better on UA coursework.
2. Complete technical courses with a grade of "C" or better.
3. Complete pre-education core courses with a grade of "C" or better.
4. Obtain a passing score on the Math, Reading, and Writing sections of the Praxis Core or ACT as defined by the Arkansas Department of Education.
5. Complete CATE 3103 during the fall semester of the sophomore year.

### Stage II: Admission to the CATE Program

Admission to the Career and Technical Education (CATE) program occurs the semester after that the candidate has completed CATE 3103 Introduction to Professionalism (Fa).

The application process includes:

1. Submission of the application to teacher education through the university-wide Teacher Education Office (see the Teacher Education Application Fee) during spring semester of sophomore year. This includes:

- Completing and passing the criminal background check
- Passing the Praxis I core academic subjects test by meeting or exceeding the Arkansas Department of Education cut-off scores. This test should be taken upon completion of ENGL 1013, and required math for each CATE concentration area.

2. Submission of the CATE application.
3. Oral interview with CATE faculty.
4. Submission of writing sample.

\*Note: Another background check will be required prior to graduation in order to be eligible for licensure.

### Stage III: Requirements for Program Continuation

1. Maintain a cumulative GPA of 2.7 or better.
2. Complete or present proof of registration for the Praxis II Content exam required by the Arkansas Department of Education Licensure area.
3. All professional education courses must have a grade "C" or better. No teaching methods courses may be taken as self-paced (correspondence).

### Admission Requirements for Internship Semester (Spring, Senior Year)

All students in the Career and Technology Education program must complete the following requirements before being admitted to the spring semester of their senior year.

### General Requirements

1. Students must complete the application to teacher education through the Teacher Education Office (see the Teacher Education Application Fee) during spring semester of sophomore year. This includes completing and passing the criminal background check, and also passing the Praxis I core academic subjects test by meeting or exceeding the Arkansas Department of Education cut-off scores. This test should be taken upon completion of ENGL 1013, and required math for each concentration.
2. All professional education courses must have a grade of "C" or better. No teaching methods courses may be taken by as self-paced (correspondence) courses. CATE 3103, CATE 4013, CATE 4023, and CATE 4033 are fall-only courses. CATE 4052 and CATE 3103 are spring-only courses. All technical courses must be completed prior to the student teaching semester.
3. Earn a cumulative GPA of 2.70 or better by the end of the fall semester, senior year. Students are not permitted to student teach if the GPA requirement is not met.
4. Students must have passed Praxis II: Content Knowledge to be admitted to the spring semester, senior year.
5. Candidate must complete a successful "internship admission interview" with Career and Technical Education faculty. Note these interviews are scheduled with all senior students during the fall semester.
6. Satisfactorily complete the internship/student teaching experience at a school/district in Benton or Washington County that has been approved by the Field Experience Coordinator.

All students seeking licensure in the State of Arkansas are subject to a criminal background check. Background checks can take up to six months to process; therefore, students are advised to complete and submit the forms to the proper authorities at least six months in advance of graduation (or six months prior to applying for a teaching license). Arkansas will not grant a teaching license to anyone who has been convicted of a felony.

All CATE program courses must have a grade of "C" or better. No teaching methods courses may be taken as self-paced (correspondence) courses.

### I. University Core Requirements 35

Required University Core for Business Education	
PSYC 2003	General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)
ECON 2013	Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)
ECON 2023	Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)
MATH 2053	Finite Mathematics (Sp, Su, Fa)

### II. Professional Education

CIED 3023	Survey of Exceptionalities (Sp, Su, Fa)	3
or CIED 4023	Teaching in Inclusive Secondary Settings (Su)	
CIED 3033	Classroom Learning Theory (Sp, Su, Fa)	3
CIED 1013	Introduction to Education (Sp, Fa)	3
CATE 3103	Introduction to Professionalism (Fa)	3
CATE 4013	Teaching Strategies (Fa)	3
CATE 4023	Classroom Management (Fa)	3
CATE 4033	Assessment / Program Evaluation (Fa)	3
CATE 4052	Seminar Teaching Internship (Sp)	2
CATE 406X	Teaching Internship (Sp)	12

**III. Technical Requirements**

ACCT 2013	Accounting Principles (Sp, Su, Fa)	3
BLAW 2013	The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa)	3
MGMT 2053	Business Foundations (Sp, Su, Fa)	3
WCOB 1033	Data Analysis and Interpretation (Sp, Su, Fa)	3
ISYS 1120 or ISYS 1123	Computer Competency Requirement (Sp, Su, Fa) Business Application Knowledge - Computer Competency (Sp, Su, Fa)	0
Any 3 Hour MKTG Course		3
CATE 4803	Problems in Career & Technical Education (Sp, Su, Fa) (Word Processing)	3
COMM 1313	Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3
MATH 1203	College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (if required, see adviser)	3
Electives (see adviser for course list) (3 hours must be upper level)		23-26
<b>Total Hours</b>		<b>120</b>

### Career and Technical Education B.S.E. with Business Education Concentration Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan in Career and Technical Education (teaching option) with a concentration in Business Education should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2053 Finite Mathematics (Sp, Su, Fa)	3	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3	
ISYS 1120 Computer Competency Requirement (Sp, Su, Fa)	0	
CIED 1013 Introduction to Education (Sp, Fa)	3	
Elective	0-3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
Fine Arts or Humanities <sup>1</sup>		3
U.S. History <sup>1</sup>		3
PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa) <sup>1</sup>		3
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)		3
<b>Year Total:</b>	<b>15</b>	<b>15</b>

Second Year	Units	
	Fall	Spring
ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)	3	
BLAW 2013 The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa)	3	
Science with Lab <sup>1</sup>	4	

Fine Arts or Humanities <sup>1</sup>	3	
ACCT 2013 Accounting Principles (Sp, Su, Fa)		3
WCOB 1033 Data Analysis and Interpretation (Sp, Su, Fa)		3
Electives		9-10
<b>Year Total:</b>	<b>13</b>	<b>16</b>

Third Year	Units	
	Fall	Spring
MGMT 2053 Business Foundations (Sp, Su, Fa) or ACCT 2023 Accounting Principles II (Sp, Su, Fa)	3	
CIED 3023 Survey of Exceptionalities (Sp, Su, Fa) or CIED 4023 Teaching in Inclusive Secondary Settings (Su)	3	
CIED 3033 Classroom Learning Theory (Sp, Su, Fa)	3	
Upper Level Elective	3	
Science with Lab <sup>1</sup>	4	
Any 3 Credit hour Marketing Course		3
CATE 4803 Problems in Career & Technical Education (Sp, Su, Fa)		3
Electives		9
<b>Year Total:</b>	<b>16</b>	<b>15</b>

Fourth Year	Units	
	Fall	Spring
CATE 3103 Introduction to Professionalism (Fa)	3	
CATE 4013 Teaching Strategies (Fa)	3	
CATE 4023 Classroom Management (Fa)	3	
CATE 4033 Assessment / Program Evaluation (Fa)	3	
Electives	4	
CATE 4052 Seminar Teaching Internship (Sp)		2
CATE 406X Teaching Internship (Sp)		12
<b>Year Total:</b>	<b>16</b>	<b>14</b>
<b>Total Units in Sequence:</b>	<b>120</b>	

<sup>1</sup> Core areas must be completed as outlined in Catalog of Studies, see the University Core requirements (p. 81).

### Requirements for B.S.E. in Career and Technical Education with Family and Consumer Sciences Education Concentration

#### Stage I: Pre-Admission

1. Obtain a GPA of 2.7 or better on UA coursework.
2. Complete technical courses with a grade of "C" or better.
3. Complete pre-education core courses with a grade of "C" or better.
4. Obtain a passing score on the Math, Reading, and Writing sections of the Praxis Core or ACT as defined by the Arkansas Department of Education.
5. Complete CATE 3103 during the fall semester of the sophomore year.

#### Stage II: Admission to the CATE Program

Admission to the Career and Technical Education (CATE) program occurs the semester after that the candidate has completed CATE 3103 Introduction to Professionalism (Fa).

The application process includes:

1. Submission of the application to teacher education through the university-wide Teacher Education Office (see the Teacher Education Application Fee) during spring semester of sophomore year. This includes:

- Completing and passing the criminal background check
- Passing the Praxis I core academic subjects test by meeting or exceeding the Arkansas Department of Education cut-off scores. This test should be taken upon completion of ENGL 1013, and required math for each CATE concentration area.

2. Submission of the CATE application.

3. Oral interview with CATE faculty.

4. Submission of writing sample.

\*Note: Another background check will be required prior to graduation in order to be eligible for licensure.

### Stage III: Requirements for Program Continuation

1. Maintain a cumulative GPA of 2.7 or better.

2. Complete or present proof of registration for the Praxis II Content exam required by the Arkansas Department of Education Licensure area.

3. All professional education courses must have a grade "C" or better. No teaching methods courses may be taken as self-paced (correspondence).

### Admission Requirements for Internship Semester (Spring, Senior Year)

All students in the Career and Technology Education program must complete the following requirements before being admitted to the spring semester of their senior year.

#### General Requirements

1. Students must complete the application to teacher education through the Teacher Education Office (see the Teacher Education Application Fee) during spring semester of sophomore year. This includes completing and passing the criminal background check, and also passing the Praxis I core academic subjects test by meeting or exceeding the Arkansas Department of Education cut-off scores. This test should be taken upon completion of ENGL 1013, and required math for each concentration.
2. All professional education courses must have a grade of "C" or better. No teaching methods courses may be taken by as self-paced (correspondence) courses. CATE 3103, CATE 4013, CATE 4023, and CATE 4033 are fall-only courses. CATE 4052 and CATE 3103 are spring-only courses. All technical courses must be completed prior to the student teaching semester.
3. Earn a cumulative GPA of 2.70 or better by the end of the fall semester, senior year. Students are not permitted to student teach if the GPA requirement is not met.
4. Students must have passed Praxis II: Content Knowledge to be admitted to the spring semester, senior year.

5. Candidate must complete a successful "internship admission interview" with Career and Technical Education faculty. Note these interviews are scheduled with all senior students during the fall semester.

6. Satisfactorily complete the internship/student teaching experience at a school/district in Benton or Washington County that has been approved by the Field Experience Coordinator.

All students seeking licensure in the State of Arkansas are subject to a criminal background check. Background checks can take up to six months to process; therefore, students are advised to complete and submit the forms to the proper authorities at least six months in advance of graduation (or six months prior to applying for a teaching license). Arkansas will not grant a teaching license to anyone who has been convicted of a felony.

In addition to the General Studies, the following courses are required for a concentration in Family and Consumer Sciences Education.

### University Core Requirements for Concentration in Family and Consumer Science 35

#### Required University Core

PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)

CHEM 1103 University Chemistry I (ACTS Equivalency = & CHEM 1101LCHEM 1414 Lecture) (Su, Fa)  
and University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)  
or CHEM 10 Fundamentals of Chemistry (ACTS Equivalency = & CHEM 107CHEM 1214 Lecture) (Su, Fa)  
and Fundamentals of Chemistry Laboratory (ACTS Equivalency = CHEM 1214 Lab) (Fa)

HESC 1403 Life Span Development (Sp, Fa)

HESC 2413 Family Relations (Sp, Fa)

#### Professional Education Core

CIED 1013 Introduction to Education (Sp, Fa) 3

CIED 1003 Introduction to Technology in Education (Sp, Su, Fa) 3

CIED 3023 Survey of Exceptionalities (Sp, Su, Fa) 3  
or CIED 4023 Teaching in Inclusive Secondary Settings (Su)

CIED 3033 Classroom Learning Theory (Sp, Su, Fa) 3

CATE 3103 Introduction to Professionalism (Fa) 3

CATE 4013 Teaching Strategies (Fa) 3

CATE 4023 Classroom Management (Fa) 3

CATE 4033 Assessment / Program Evaluation (Fa) 3

CATE 4052 Seminar Teaching Internship (Sp) 2

CATE 406X Teaching Internship (Sp) 12

#### Technical Requirements

AMPD 1023 Introduction to Apparel Production (Sp, Fa) 3

NUTR 1213 Fundamentals of Nutrition (Sp, Fa) 3

NUTR 2112 Principles of Foods (Sp, Fa) 3  
& NUTR 2111L and Principles of Foods Laboratory (Sp, Fa)

NUTR 2203 Sports Nutrition (Sp, Fa) 3

or NUTR 4243 Community Nutrition (Sp)

or NUTR 4223 Life Cycle Nutrition (Fa)

AMPD 2053 Introduction to Textile Science (Sp, Fa) 3

HDFS 2403 Infant and Toddler Development (Sp, Fa) 3

HDFS 2433	Child Development (Sp, Fa)	3
HDFS 3423	Adolescent Development (Odd years, Sp)	3
or CIED 3053	The Emerging Adolescent (Sp, Fa)	
HDFS 3443	Families in Crisis (Fa)	3
or SCWK 3233	Contemporary Issues in Juvenile Justice (Sp, Su, Fa)	
or SCWK 4143	Addiction and the Family (Irregular)	
HDFS 3453	Parenting and Family Dynamics (Sp, Fa)	3
HDFS 2483	Family Financial Management (Sp, Fa)	3
CATE 4803	Problems in Career & Technical Education (Sp, Su, Fa) (Housing)	3
Electives (Adviser Approved)		11
Total Hours		120

## Career and Technical Education B.S.E.with Family and Consumer Sciences Education Concentration

### Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan in Career and Technical Education with a concentration in Family and Consumer Sciences Education should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3	
Select one of the following:	4	
CHEM 1073 Fundamentals of Chemistry (ACTS Equivalency = CHEM 1214 Lecture) (Su, Fa) & CHEM 1071L Fundamentals of Chemistry Laboratory (ACTS Equivalency = CHEM 1214 Lab) (Fa)		
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) & CHEM 1101L University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)		
U.S. History <sup>1</sup>	3	
HESC 1403 Life Span Development (Sp, Fa)	3	
NUTR 1213 Fundamentals of Nutrition (Sp, Fa)		3
AMPD 1023 Introduction to Apparel Production (Sp, Fa)		3
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
Science with Lab <sup>1</sup>		4
Fine Arts or Humanities <sup>1</sup>		3
Year Total:	16	16

Second Year	Units	
	Fall	Spring
CIED 1013 Introduction to Education (Sp, Fa)	3	
CIED 1003 Introduction to Technology in Education (Sp, Su, Fa)	3	

NUTR 2112 Principles of Foods (Sp, Fa)	2	
NUTR 2111L Principles of Foods Laboratory (Sp, Fa)		1
PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa) Humanities or Fine Arts <sup>1</sup>	3	3
HESC 2413 Family Relations (Sp, Fa)		3
NUTR 2203 Sports Nutrition (Sp, Fa) or NUTR 4243 Community Nutrition (Sp) or NUTR 4223 Life Cycle Nutrition (Fa)		3
AMPD 2053 Introduction to Textile Science (Sp, Fa)		3
Electives		6
Year Total:	15	15

Third Year	Units	
	Fall	Spring
HDFS 2403 Infant and Toddler Development (Sp, Fa)	3	
HDFS 3453 Parenting and Family Dynamics (Sp, Fa)	3	
Elective	3	
HDFS 3443 Families in Crisis (Fa) or SCWK 3233 Contemporary Issues in Juvenile Justice (Sp, Su, Fa) or SCWK 4143 Addiction and the Family (Irregular)	3	
CIED 3033 Classroom Learning Theory (Sp, Su, Fa)		3
HDFS 3423 Adolescent Development (Odd years, Sp) or CIED 3053 The Emerging Adolescent (Sp, Fa)		3
CATE 4803 Problems in Career & Technical Education (Sp, Su, Fa)		3
HDFS 2433 Child Development (Sp, Fa)		3
Elective		2
HDFS 2483 Family Financial Management (Sp, Fa)		3
Year Total:	15	14

Fourth Year	Units	
	Fall	Spring
CATE 4023 Classroom Management (Fa)	3	
CATE 4013 Teaching Strategies (Fa)	3	
CATE 3103 Introduction to Professionalism (Fa)	3	
CIED 3023 Survey of Exceptionalities (Sp, Su, Fa)	3	
CATE 4033 Assessment / Program Evaluation (Fa)	3	
CATE 4052 Seminar Teaching Internship (Sp)		2
CATE 406X Teaching Internship (Sp)		12
Year Total:	15	14

Total Units in Sequence: 120

<sup>1</sup> Core areas must be completed as outlined in Catalog of Studies, see the University Core Requirements (p. 81).

## Requirements for B.S.E. in Career and Technical Education with Technology Education Concentration

### Stage I: Pre-Admission

1. Obtain a GPA of 2.7 or better on UA coursework.
2. Complete technical courses with a grade of "C" or better.
3. Complete pre-education core courses with a grade of "C" or better.
4. Obtain a passing score on the Math, Reading, and Writing sections of the Praxis Core or ACT as defined by the Arkansas Department of Education.
5. Complete CATE 3103 during the fall semester of the sophomore year.

### Stage II: Admission to the CATE Program

Admission to the Career and Technical Education (CATE) program occurs the semester after that the candidate has completed CATE 3103 Introduction to Professionalism (Fa).

The application process includes:

1. Submission of the application to teacher education through the university-wide Teacher Education Office (see the Teacher Education Application Fee) during spring semester of sophomore year. This includes:
  - Completing and passing the criminal background check
  - Passing the Praxis I core academic subjects test by meeting or exceeding the Arkansas Department of Education cut-off scores. This test should be taken upon completion of ENGL 1013, and required math for each CATE concentration area.

2. Submission of the CATE application.
3. Oral interview with CATE faculty.
4. Submission of writing sample.

\*Note: Another background check will be required prior to graduation in order to be eligible for licensure.

### Stage III: Requirements for Program Continuation

1. Maintain a cumulative GPA of 2.7 or better.
2. Complete or present proof of registration for the Praxis II Content exam required by the Arkansas Department of Education Licensure area.
3. All professional education courses must have a grade "C" or better. No teaching methods courses may be taken as self-paced (correspondence).

### Admission Requirements for Internship Semester (Spring, Senior Year)

All students in the Career and Technology Education program must complete the following requirements before being admitted to the spring semester of their senior year.

### General Requirements

1. Students must complete the application to teacher education through the Teacher Education Office (see the Teacher Education Application Fee) during spring semester of sophomore year. This includes completing and passing the criminal background check, and also passing the Praxis I core academic subjects test by meeting or exceeding the Arkansas Department of Education cut-off scores. This

test should be taken upon completion of ENGL 1013, and required math for each concentration.

2. All professional education courses must have a grade of "C" or better. No teaching methods courses may be taken by as self-paced (correspondence) courses. CATE 3103, CATE 4013, CATE 4023, and CATE 4033 are fall-only courses. CATE 4052 and CATE 3103 are spring-only courses. All technical courses must be completed prior to the student teaching semester.
3. Earn a cumulative GPA of 2.70 or better by the end of the fall semester, senior year. Students are not permitted to student teach if the GPA requirement is not met.
4. Students must have passed Praxis II: Content Knowledge to be admitted to the spring semester, senior year.
5. Candidate must complete a successful "internship admission interview" with Career and Technical Education faculty. Note these interviews are scheduled with all senior students during the fall semester.
6. Satisfactorily complete the internship/student teaching experience at a school/district in Benton or Washington County that has been approved by the Field Experience Coordinator.

All students seeking licensure in the State of Arkansas are subject to a criminal background check. Background checks can take up to six months to process; therefore, students are advised to complete and submit the forms to the proper authorities at least six months in advance of graduation (or six months prior to applying for a teaching license). Arkansas will not grant a teaching license to anyone who has been convicted of a felony.

### University Core Requirements (State Minimum Core) <sup>1</sup> 35

MATH 2043	Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)
PSYC 2003	General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)

Science concentration of core must include:

PHYS 2013	College Physics I (ACTS Equivalency = PHYS & PHYS 2011L 2014 Lecture) (Su, Fa)
	and College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab) (Su, Fa)
	or PHYS 2050 University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa)

### Technical Requirements 30-32

TEED 1103	The Nature of Technology (Sp)
TEED 2103	Technology and Society (Fa)
GNEG 1111	Introduction to Engineering I (Sp, Fa)
	or GNEG 1106 Introduction to Engineering (Sp, Fa)
GNEG 1121	Introduction to Engineering II (Sp, Fa)
	or GNEG 1111 Introduction to Engineering (Sp, Fa)
STEM 4033	Introduction to STEM Education (Sp, Su)
TEED 4103	Engineering Design for Technology Education Capstone (Irregular)
GNEG 1122	Introduction CAD (Sp, Fa)
	or TEED 1203 CAD Technology I (Sp)
TEED 3303	The Technologies of Energy and Movement (Irregular)
	or AGME 311 Small Power Units/Turf Equipment (Sp)
	& AGME 311 (and Small Power Units/Turf Equipment Laboratory) (Sp)

TEED 3203	The Technology of Communicating (Irregular)	
or CATE 4075	Introduction to Teaching Programming in the Secondary Schools (Irregular)	
INEG 3513	Manufacturing Processes (Sp)	
AGME 3173	Electricity in Agriculture (Sp)	
AGME 3042	Agricultural Construction Technology (Irregular)	
<b>Professional Education</b> <sup>2</sup>		41
COMM 1313	Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	
CIED 1003	Introduction to Technology in Education (Sp, Su, Fa) (or any 3hr computer course)	
CIED 1013	Introduction to Education (Sp, Fa)	
CIED 3023	Survey of Exceptionalities (Sp, Su, Fa)	
or CIED 4023	Teaching in Inclusive Secondary Settings (Su)	
CIED 3033	Classroom Learning Theory (Sp, Su, Fa)	
CATE 3103	Introduction to Professionalism (Fa)	
CATE 4013	Teaching Strategies (Fa)	
CATE 4023	Classroom Management (Fa)	
CATE 4033	Assessment / Program Evaluation (Fa)	
CATE 4052	Seminar Teaching Internship (Sp)	
CATE 406X	Teaching Internship (Sp) ((12 hours))	
<b>Technical Electives</b>		14-12
<b>Total Hours</b>		
Total Hours		120

<sup>1</sup> See the University Core (p. 81) page.

<sup>2</sup> All professional education courses must have grade "C" or better to award degree credit.

## Internship Semester (Spring Semester/Senior Year) Admission Criteria:

1. Candidate must hold a cumulative GPA of 2.70 or higher.
2. Candidate must have completed the application to teacher education through the Teacher Education Office (see the Teacher Education Application Fee (p. 61)) during spring semester of sophomore year. This includes passing the Praxis Core exam and successfully completing the required criminal background check.
3. Candidate must have taken and passed the Praxis II content examination during the previous semester or earlier.
4. Candidate must complete a successful "internship admission interview" with Career & Technical Education faculty. Note these interviews are scheduled with all senior students during the fall semester.

Note: All students seeking licensure in the State of Arkansas are subject to a criminal background check. Forms needed to complete this procedure may be obtained in 340 Graduate Education Building on the University of Arkansas campus. These forms may also be obtained from any police station (including the University of Arkansas Police station) or directly from the Arkansas State Department. These background checks take up to six months to process; therefore, students are advised to complete and submit the forms to the proper authorities at least six months in advance of graduation (or six months prior to applying for a teaching license). Arkansas will not grant a teaching license to anyone who has been convicted of a felony.

## Career and Technical Education B.S.E. with Technology Education Concentration Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan in Technology Education should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
GNEG 1111 Introduction to Engineering I (Sp, Fa) or GNEG 1103 Introduction to Engineering (Sp, Fa)	1	
GNEG 1122 Introduction CAD (Sp, Fa) or TEED 1203 CAD Technology I (Sp)	2	
Fine Arts or Humanities <sup>1</sup>	3	
U.S. History <sup>1</sup>	3	
CIED 1013 Introduction to Education (Sp, Fa)	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
GNEG 1121 Introduction to Engineering II (Sp, Fa) or GNEG 1103 Introduction to Engineering (Sp, Fa)		1
AGME 3173 Electricity in Agriculture (Sp)		3
TEED 1103 The Nature of Technology (Sp)		3
MATH 2043 Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa)		3
Technical Elective Course		3
Year Total:	15	16

Second Year	Units	
	Fall	Spring
PHYS 2013 College Physics I (ACTS Equivalency = PHYS 2014 Lecture) (Su, Fa) & PHYS 2011L College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab) (Su, Fa) or PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa)	4	
PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)	3	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3	
TEED 2103 Technology and Society (Fa)	3	
CIED 1003 Introduction to Technology in Education (Sp, Su, Fa) (or any 3hr computer course)	3	
Technical Elective Course		3
Science with Lab <sup>1</sup>		4
STEM 4033 Introduction to STEM Education (Sp, Su)		3
Fine Arts or Humanities <sup>1</sup>		3
Social Science <sup>1</sup>		3
Year Total:	16	16



Third Year	Units	
	Fall	Spring
CIED 3023 Survey of Exceptionalities (Sp, Su, Fa) or CIED 4023 Teaching in Inclusive Secondary Settings (Su)	3	
CIED 3033 Classroom Learning Theory (Sp, Su, Fa)	3	
TEED 3203 The Technology of Communicating (Irregular) or CATE 4073 Introduction to Teaching Programming in the Secondary Schools (Irregular)	3	
INEG 3513 Manufacturing Processes (Sp)	3	
Technical Elective Course	4	
TEED 3303 The Technologies of Energy and Movement (Irregular) or AGME 3102 and AGME 3101L Social Science <sup>1</sup>		3
AGME 3042 Agricultural Construction Technology (Irregular)		2
Technical Elective Course		4
Year Total:	16	12

Fourth Year	Units	
	Fall	Spring
TEED 4103 Engineering Design for Technology Education Capstone (Irregular)	3	
CATE 3103 Introduction to Professionalism (Fa)	3	
CATE 4013 Teaching Strategies (Fa)	3	
CATE 4023 Classroom Management (Fa)	3	
CATE 4033 Assessment / Program Evaluation (Fa)	3	
CATE 4052 Seminar Teaching Internship (Sp)		2
CATE 406X Teaching Internship (Sp)		12
Year Total:	15	14

Total Units in Sequence: 120

<sup>1</sup> Must meet University Core

## Teacher Licensure

Requirements for teacher licensure vary from state to state and may differ among teacher preparation programs. Please note that Arkansas requires all applicants to successfully complete a criminal background check. Background checks must be cleared before the candidate begins student teaching.

## Childhood Education (CHED) Faculty

**Jennifer G. Beasley**, Clinical Assistant Professor  
**Deborah A. Brown**, Clinical Assistant Professor  
**Linda Hale Eilers**, Clinical Associate Professor  
**Angela Carlton Elsass**, Clinical Associate Professor  
**Marcia B. Imbeau**, Professor  
**Grace R. Kerr**, Clinical Instructor  
**Heather D. Kindall**, Assistant Professor  
**Denise Ann Mounts**, Clinical Associate Professor

**Cathy Wissehr**, Clinical Associate Professor

The Department of Curriculum and Instruction offers programs that prepare candidates for initial teacher licensure in Elementary Education (K-6). The B.S.E. degree in Childhood Education is not an initial teacher licensure program but instead leads to the Master of Arts in Teaching (M.A.T.), which is the initial teacher licensure preparation program. Information about the M.A.T. degree program (<http://catalog.uark.edu/graduatecatalog/programsofstudy/childhoodeducationmat>) can be found in the University of Arkansas *Graduate Catalog*.

Students majoring in Childhood Education must choose from among four concentrations:

- English as a Second Language Concentration
- Gifted and Talented Concentration
- Reading Concentration
- Science, Technology, Engineering and Math Concentration

## Requirements for B.S.E. in Childhood Education with EASL Concentration

Admission to the B.S.E. in Childhood Education is competitive and consists of a three-stage process; simply meeting the minimum requirements will not guarantee admission to the program. Admission will be determined by the Childhood Education faculty based on the seven items listed below in Stage II.

### Stage I: Pre-Elementary Education (PELED)

Complete all 63 hours of program pre-requisites (see below).

1. Obtain a GPA of 3.0 or better on UA coursework.
2. †Complete all program courses with a "C" or better.
3. Obtain a passing score on the Math, Reading, and Writing sections of the Praxis Core or ACT.
4. Complete a background check.

### Stage II: Admission to the Childhood Education Program (CHED)

Admission to the Childhood Education Program is competitive and completion of all Pre-Elementary Education requirements must occur prior to entering the Childhood Education Program of Study the following fall term. Not all applicants meeting the minimum requirements will be admitted to the program. Applications to the Childhood Education (CHED) program must be submitted by Jan. 30. At this point applicants must decide which program option they will follow; either CHED B.S.E. leading to M.A.T. option or ELEM B.S.E. licensure option. Both of these options are described on the application, which can be found on the College of Education and Health Professions website (<http://cied.uark.edu/2360.htm>).

The application process includes:

1. Submission of the application to teacher education (see the Teacher Education Application Fee (p. 61)) through the university-wide Teacher Education Office.
2. Submission of Childhood Education application.
3. Submission of transcripts for all coursework.
4. Oral Interview with Childhood Education faculty.
5. Submission of Writing Sample.
6. Submission of passing score on Math, Reading, and Writing sections of the Praxis Core Exam.

## 7. Current background check

**Stage III: Requirements for Program Continuation**

1. Declaration of endorsement area of ESL, GT, Reading, or STEM.
2. Maintain a cumulative GPA of 3.0 or better.
3. Passing score on Praxis II, Elementary Education: Multiple Subjects
4. All non-methods math, science, social studies and English Language Arts courses must be completed prior to senior year.

All program courses must have a grade of "C" or better. No teaching methods courses may be taken as self-paced (correspondence) courses.

For licensure, students must continue in the Master of Arts in Teaching program, which has limited enrollment. Find out more about the M.A.T. Program (<http://catalog.uark.edu/graduatecatalog/programsofstudy/childhoodeducationmat>) in the Graduate Catalog.

**Childhood Education Requirements**

Students in the Childhood Education program must choose one of four concentrations: English as a Second Language Concentration, a Gifted and Talented Concentration, a Reading Concentration, or a STEM Concentration.

**EASL Concentration (EASL)****Pre-Elementary Education (PELED) requirements** †

University Core (State Minimum Core) 35

The following are specifically required for CHED program

ENGL 1013	Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)
ENGL 1023	Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)
MATH 1203	College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)
BIOL 1543 & BIOL 1541L	Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)
GEOS 1113 & GEOS 1111L	General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa) and General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)
HIST 2003	History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)
GEOS 1123	Human Geography (ACTS Equivalency = GEOG 1113) (Sp, Su, Fa)
	or ANTH 102: Introduction to Cultural Anthropology (ACTS Equivalency = ANTH 2013) (Sp, Su, Fa)
HIST 2013	History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)
HIST 1113	Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)
	or HIST 112: Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)
ARHS 1003	Basic Course in the Arts: Art Lecture (ACTS Equivalency = ARTA 1003) (Sp, Su, Fa)
COMM 1233	Media, Community and Citizenship (Sp, Fa)
	or WLIT 111: World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)

- or PHIL 200: Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)
- or PHIL 210: Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)
- or PHIL 220: Logic (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)
- or PHIL 310: Ethics and the Professions (Sp, Su, Fa)

**Additional PELED requirements** 28

CIED 1013	Introduction to Education (Sp, Fa)
COMM 1313	Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)
	or COMM 232: Interpersonal Communication (Sp, Su, Fa)
HIST 3383	Arkansas and the Southwest (Sp, Fa) (or any 3 hr Arkansas history course)
MATH 2213	Survey of Mathematical Structures I (Sp, Su, Fa)
MATH 2223	Survey of Mathematical Structures II (Sp, Su, Fa)
MLIT 1003	Experiencing Music (ACTS Equivalency = MUSC 1003) (Sp, Su, Fa)
PHYS 1034	Physics for Elementary Education Majors (Sp)
or ASTR 2003/2001L	Survey of the Universe (ACTS Equivalency = PHSC 1204 Lecture) (Sp, Su, Fa)
	or STEM 41: Astronomy for Educators (Sp, Fa)
PLSC 2003	American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)
STAT 2303	Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa) (or any 3hr Statistics course)

**Childhood Education major requirements** 47

To be completed following admission to CHED program	
ENGL 2003	Advanced Composition (Sp, Su, Fa)
ENSC 1003	Environmental Science (Sp, Fa)
3 hour MATH Elective (consult adviser)	
ECON 3053	Economics for Elementary Teachers (Fa)
	or ECON 21: Basic Economics: Theory and Practice (Sp, Su, Fa)
CIED 3013	Development and Learning Theories in the K-6 Classroom (Sp, Fa) †
CIED 3023	Survey of Exceptionalities (Sp, Su, Fa) †
CIED 3053	The Emerging Adolescent (Sp, Fa) †
CIED 3103	Children and Adolescent Literature (Sp, Fa) †
CIED 3113	Emergent and Developmental Literacy (Sp, Fa) †
CIED 3123	Mathematics Methods in the K-6 Classroom (Sp, Fa) †
CIED 3133	Integrated Social Studies for the K-6 Classroom (Sp, Fa) †
CIED 3143	Teaching Science in the Elementary Grades (Sp, Fa) †
CIED 3262	Language Development for the Educator (Sp, Fa) †
CIED 4113	Integrated Communication Skills for the K-6 Classroom (Sp, Fa) †
CIED 4153	Classroom Management in the Elementary Grades (Sp, Fa) †
CIED 4363	Disciplinary Literacy in the K-6 Classroom (Sp, Fa) †

**EASL Concentration requirements** 12

3 hour General Elective	
CIED 4403	Understanding Cultures in the Classroom (Su, Fa) †

CIED 4413	Acquiring a Second Language (Fa) †	
STEM 4033	Introduction to STEM Education (Sp, Su) †	
	or STEM 5023 Creativity and Innovation in STEM (Su, Fa)	
Total Hours		122

† Must have a grade of 'C' or better to award degree credit

## Childhood Education B.S.E. (EASL concentration)

### Eight-Semester Plan

Because this program requires admission to progress, it does not qualify for the university's Eight-Semester Degree Program; however, students who qualify to finish a degree in four years can follow the suggested order of classes below.

	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3	
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	4	
ARHS 1003 Basic Course in the Arts: Art Lecture (ACTS Equivalency = ARTA 1003) (Sp, Su, Fa)	3	
HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa) ( or any 3 hr Statistics course)		3
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa) or COMM 2323 Interpersonal Communication (Sp, Su, Fa)		3
CIED 1013 Introduction to Education (Sp, Fa)		3
HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)		3
Year Total:	16	15

	Units	
	Fall	Spring
PHYS 1034 Physics for Elementary Education Majors (Sp) or ASTR 2003 and ASTR 2001L or STEM 4104 Astronomy for Educators (Sp, Fa)	4	

COMM 1233 Media, Community and Citizenship (Sp, Fa) or PHIL 2003 Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa) or PHIL 2103 Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa) or PHIL 2203 Logic (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa) or PHIL 3103 Ethics and the Professions (Sp, Su, Fa) or WLIT 1113 World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)	3	
MATH 2213 Survey of Mathematical Structures I (Sp, Su, Fa)	3	
PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)	3	
MLIT 1003 Experiencing Music (ACTS Equivalency = MUSC 1003) (Sp, Su, Fa)	3	
HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)		3
GEOS 1113 General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa) & GEOS 1111L General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)		4
MATH 2223 Survey of Mathematical Structures II (Sp, Su, Fa)		3
GEOS 1123 Human Geography (ACTS Equivalency = GEOG 1113) (Sp, Su, Fa) or ANTH 1023 Introduction to Cultural Anthropology (ACTS Equivalency = ANTH 2013) (Sp, Su, Fa)		3
Select one of the following:		3
HIST 3383 Arkansas and the Southwest (Sp, Fa)		
Any 3-hour Arkansas History course		
Year Total:	16	16

	Units	
	Fall	Spring
CIED 3013 Development and Learning Theories in the K-6 Classroom (Sp, Fa)	3	
ENGL 2003 Advanced Composition (Sp, Su, Fa)	3	
CIED 3103 Children and Adolescent Literature (Sp, Fa)	3	
CIED 3262 Language Development for the Educator (Sp, Fa)	2	
Electives	3	
CIED 3113 Emergent and Developmental Literacy (Sp, Fa)		3
CIED 3053 The Emerging Adolescent (Sp, Fa)		3
Math Electives		3
ENSC 1003 Environmental Science (Sp, Fa)		3

ECON 3053 Economics for Elementary Teachers (Fa)		3
or ECON 2143 Basic Economics: Theory and Practice (Sp, Su, Fa)		
Year Total:	14	15

Fourth Year	Units	
	Fall	Spring
CIED 3123 Mathematics Methods in the K-6 Classroom (Sp, Fa)	3	
CIED 4113 Integrated Communication Skills for the K-6 Classroom (Sp, Fa)	3	
STEM 4033 Introduction to STEM Education (Sp, Su)	3	
CIED 3133 Integrated Social Studies for the K-6 Classroom (Sp, Fa)	3	
CIED 4403 Understanding Cultures in the Classroom (Su, Fa)	3	
CIED 4153 Classroom Management in the Elementary Grades (Sp, Fa)		3
CIED 4363 Disciplinary Literacy in the K-6 Classroom (Sp, Fa)		3
CIED 3143 Teaching Science in the Elementary Grades (Sp, Fa)		3
CIED 3023 Survey of Exceptionalities (Sp, Su, Fa)		3
CIED 4413 Acquiring a Second Language (Fa)		3
Year Total:	15	15
Total Units in Sequence:		122

## Requirements for B.S.E. in Childhood Education with Gifted and Talented Concentration

Admission to the B.S.E. in Childhood Education is competitive and consists of a three-stage process; simply meeting the minimum requirements will not guarantee admission to the program. Admission will be determined by the Childhood Education faculty based on the seven items listed below in Stage II.

### Stage I: Pre-Elementary Education (PELED)

Complete all 63 hours of program pre-requisites (see below).

1. Obtain a GPA of 3.0 or better on UA coursework.
2. †Complete all program courses with a "C" or better.
3. Obtain a passing score on the Math, Reading, and Writing sections of the Praxis Core or ACT.
4. Complete a background check.

### Stage II: Admission to the Childhood Education Program (CHED)

Admission to the Childhood Education Program is competitive and completion of all Pre-Elementary Education requirements must occur prior to entering the Childhood Education Program of Study the following fall term. Not all applicants meeting the minimum requirements will be admitted to the program. Applications to the Childhood Education (CHED) program must be submitted by Jan. 30. At this point applicants must decide which program option they will follow; either CHED B.S.E. leading to M.A.T. option or ELEL B.S.E. licensure option. Both of

these options are described on the application, which can be found on the College of Education and Health Professions website (<http://cied.uark.edu/2360.htm>).

The application process includes:

1. Submission of the application to teacher education (see the Teacher Education Application Fee (p. 61)) through the university-wide Teacher Education Office.
2. Submission of Childhood Education application.
3. Submission of transcripts for all coursework.
4. Oral Interview with Childhood Education faculty.
5. Submission of Writing Sample.
6. Submission of passing score on Math, Reading, and Writing sections of the Praxis Core Exam.
7. Current background check

### Stage III: Requirements for Program Continuation

1. Declaration of endorsement area of ESL, GT, Reading, or STEM.
2. Maintain a cumulative GPA of 3.0 or better.
3. Passing score on Praxis II, Elementary Education: Multiple Subjects
4. All non-methods math, science, social studies and English Language Arts courses must be completed prior to senior year.

All program courses must have a grade of "C" or better. No teaching methods courses may be taken as self-paced (correspondence) courses.

For licensure, students must continue in the Master of Arts in Teaching program, which has limited enrollment. Find out more about the M.A.T. Program (<http://catalog.uark.edu/graduatecatalog/programsofstudy/childhoodeducationmat>) in the Graduate Catalog.

## Childhood Education Requirements

Students in the Childhood Education program must choose one of four concentrations: English as a Second Language Concentration, a Gifted and Talented Concentration, a Reading Concentration, or a STEM Concentration.

## Gifted and Talented Concentration (GATE)

### Pre-Elementary Education (PELED) requirements †

University Core (State Minimum Core)		35
Specifically required for CHED program		
ENGL 1013	Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	
ENGL 1023	Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)	
MATH 1203	College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	
BIOL 1543 & BIOL 1541L	Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	
GEOS 1113 & GEOS 1111L	General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa) and General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)	
HIST 2003	History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)	

GEOS 1123	Human Geography (ACTS Equivalency = GEOG 1113) (Sp, Su, Fa)
	or ANTH 102: Introduction to Cultural Anthropology (ACTS Equivalency = ANTH 2013) (Sp, Su, Fa)
HIST 2013	History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)
HIST 1113	Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)
	or HIST 112: Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)
ARHS 1003	Basic Course in the Arts: Art Lecture (ACTS Equivalency = ARTA 1003) (Sp, Su, Fa)
COMM 1233	Media, Community and Citizenship (Sp, Fa)
	or WLIT 111: World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)
	or PHIL 200: Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)
	or PHIL 210: Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)
	or PHIL 220: Logic (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)
	or PHIL 310: Ethics and the Professions (Sp, Su, Fa)

**Additional PELED requirements** 28

CIED 1013	Introduction to Education (Sp, Fa)
COMM 1313	Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)
	or COMM 2323: Interpersonal Communication (Sp, Su, Fa)
HIST 3383	Arkansas and the Southwest (Sp, Fa) (or any 3 hr Arkansas history course)
MATH 2213	Survey of Mathematical Structures I (Sp, Su, Fa)
MATH 2223	Survey of Mathematical Structures II (Sp, Su, Fa)
MLIT 1003	Experiencing Music (ACTS Equivalency = MUSC 1003) (Sp, Su, Fa)
PHYS 1034	Physics for Elementary Education Majors (Sp)
	or ASTR 2003/2001L: Survey of the Universe (ACTS Equivalency = PHSC 1204 Lecture) (Sp, Su, Fa)
	or STEM 41: Astronomy for Educators (Sp, Fa)
PLSC 2003	American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)
STAT 2303	Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa) (or any 3 hr Statistics course)

**Childhood Education major requirements** 47

To be completed following admission to CHED program	
ENGL 2003	Advanced Composition (Sp, Su, Fa)
3 hour Math Elective (consult adviser)	
ENSC 1003	Environmental Science (Sp, Fa)
ECON 3053	Economics for Elementary Teachers (Fa)
	or ECON 21: Basic Economics: Theory and Practice (Sp, Su, Fa)
CIED 3013	Development and Learning Theories in the K-6 Classroom (Sp, Fa) <sup>†</sup>
CIED 3023	Survey of Exceptionalities (Sp, Su, Fa) <sup>†</sup>
CIED 3053	The Emerging Adolescent (Sp, Fa) <sup>†</sup>
CIED 3103	Children and Adolescent Literature (Sp, Fa) <sup>†</sup>
CIED 3113	Emergent and Developmental Literacy (Sp, Fa) <sup>†</sup>
CIED 3123	Mathematics Methods in the K-6 Classroom (Sp, Fa) <sup>†</sup>

CIED 3133	Integrated Social Studies for the K-6 Classroom (Sp, Fa) <sup>†</sup>
CIED 3143	Teaching Science in the Elementary Grades (Sp, Fa) <sup>†</sup>
CIED 3262	Language Development for the Educator (Sp, Fa) <sup>†</sup>
CIED 4113	Integrated Communication Skills for the K-6 Classroom (Sp, Fa) <sup>†</sup>
CIED 4153	Classroom Management in the Elementary Grades (Sp, Fa) <sup>†</sup>
CIED 4363	Disciplinary Literacy in the K-6 Classroom (Sp, Fa) <sup>†</sup>
<b>GATE Concentration requirements</b> 12	
CIED 4423	Teaching English as a Second Language (Sp) <sup>†</sup>
6 hours Adviser Approved GT Courses <sup>†</sup>	
STEM 4033	Introduction to STEM Education (Sp, Su) <sup>†</sup>
	or STEM 50: Creativity and Innovation in STEM (Su, Fa)
Total Hours	122

<sup>†</sup> Must have a grade of 'C' or better to award degree credit

<sup>1</sup> Or any 3-hour Arkansas History course

## Childhood Education B.S.E. with Gifted and Talented Education Concentration Eight-Semester Degree Program

All coursework must be passed with a "C" or better to award degree credit.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (or higher)	3	
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	4	
HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)	3	
ARHS 1003 Basic Course in the Arts: Art Lecture (ACTS Equivalency = ARTA 1003) (Sp, Su, Fa) (Fine Arts Core)	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)		3
CIED 1013 Introduction to Education (Sp, Fa) <sup>1</sup>		3
HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)		3
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa) or COMM 2323 Interpersonal Communication (Sp, Su, Fa)		3
Year Total:	16	15

Second Year	Units	
	Fall	Spring
Humanities Core to be chosen from one of the following:	3	
COMM 1233 Media, Community and Citizenship (Sp, Fa)		
WLIT 1113 World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)		
PHIL 2203 Logic (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)		
PHIL 3103 Ethics and the Professions (Sp, Su, Fa)		
Physical Science <sup>1</sup>	4	
PHYS 1034 Physics for Elementary Education Majors (Sp) (Physical Science) <sup>1</sup>		
ASTR 2003 Survey of the Universe (ACTS Equivalency = PHSC 1204 Lecture) (Sp, Su, Fa) & ASTR 2001L Survey of the Universe Laboratory (ACTS Equivalency = PHSC 1204 Lab) (Sp, Su, Fa)		
MATH 2213 Survey of Mathematical Structures I (Sp, Su, Fa) <sup>1</sup>	3	
PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa) <sup>1</sup>	3	
MLIT 1003 Experiencing Music (ACTS Equivalency = MUSC 1003) (Sp, Su, Fa) (Fine Arts Core)	3	
HIST 3383 Arkansas and the Southwest (Sp, Fa)		3
GEOS 1113 General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa) & GEOS 1111L General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)		4
GEOS 1123 Human Geography (ACTS Equivalency = GEOG 1113) (Sp, Su, Fa) or ANTH 1023 Introduction to Cultural Anthropology (ACTS Equivalency = ANTH 2013) (Sp, Su, Fa)	3	
MATH 2223 Survey of Mathematical Structures II (Sp, Su, Fa)		3
HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa) or HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)		3
Year Total:	16	16

Third Year	Units	
	Fall	Spring
CIED 3013 Development and Learning Theories in the K-6 Classroom (Sp, Fa) <sup>1</sup>	3	
ENGL 2003 Advanced Composition (Sp, Su, Fa)	3	
CIED 3103 Children and Adolescent Literature (Sp, Fa)	3	
CIED 3262 Language Development for the Educator (Sp, Fa)	2	
Elective	3	

CIED 3113 Emergent and Developmental Literacy (Sp, Fa) <sup>1</sup>		3
CIED 3053 The Emerging Adolescent (Sp, Fa) <sup>1</sup>		3
ENSC 1003 Environmental Science (Sp, Fa)		3
CIED 3023 Survey of Exceptionalities (Sp, Su, Fa) <sup>1</sup>		3
ECON 3053 Economics for Elementary Teachers (Fa) or ECON 2143 Basic Economics: Theory and Practice (Sp, Su, Fa)		3
Year Total:	14	15

Fourth Year	Units	
	Fall	Spring
CIED 3123 Mathematics Methods in the K-6 Classroom (Sp, Fa) <sup>1</sup>	3	
CIED 4113 Integrated Communication Skills for the K-6 Classroom (Sp, Fa) <sup>1</sup>	3	
STEM 4033 Introduction to STEM Education (Sp, Su)	3	
CIED 4423 Teaching English as a Second Language (Sp)	3	
Approved CIED course in Gifted and Talented	3	
CIED 4153 Classroom Management in the Elementary Grades (Sp, Fa) <sup>1</sup>		3
CIED 4363 Disciplinary Literacy in the K-6 Classroom (Sp, Fa) <sup>1</sup>		3
CIED 3143 Teaching Science in the Elementary Grades (Sp, Fa) <sup>1</sup>		3
CIED 3133 Integrated Social Studies for the K-6 Classroom (Sp, Fa)		3
Approved CIED course in Gifted and Talented		3
Year Total:	15	15

Total Units in Sequence: 122

<sup>1</sup> Denotes field experience component.

## Requirements for B.S.E. in Childhood Education with Reading Concentration

Admission to the B.S.E. in Childhood Education is competitive and consists of a three-stage process; simply meeting the minimum requirements will not guarantee admission to the program. Admission will be determined by the Childhood Education faculty based on the seven items listed below in Stage II.

### Stage I: Pre-Elementary Education (PELED)

Complete all 63 hours of program pre-requisites (see below).

1. Obtain a GPA of 3.0 or better on UA coursework.
2. †Complete all program courses with a "C" or better.
3. Obtain a passing score on the Math, Reading, and Writing sections of the Praxis Core or ACT.
4. Complete a background check.

### Stage II: Admission to the Childhood Education Program (CHED)

Admission to the Childhood Education Program is competitive and completion of all Pre-Elementary Education requirements must occur prior to entering the Childhood Education Program of Study the following fall term. Not all applicants meeting the minimum requirements will be admitted to the program. Applications to the Childhood Education (CHED) program must be submitted by Jan. 30. At this point applicants must decide which program option they will follow; either CHED B.S.E. leading to M.A.T. option or ELEM B.S.E. licensure option. Both of these options are described on the application, which can be found on the College of Education and Health Professions website (<http://ced.uark.edu/2360.htm>).

The application process includes:

1. Submission of the application to teacher education (see the Teacher Education Application Fee (p. 61)) through the university-wide Teacher Education Office.
2. Submission of Childhood Education application.
3. Submission of transcripts for all coursework.
4. Oral Interview with Childhood Education faculty.
5. Submission of Writing Sample.
6. Submission of passing score on Math, Reading, and Writing sections of the Praxis Core Exam.
7. Current background check

### Stage III: Requirements for Program Continuation

1. Declaration of endorsement area of ESL, GT, Reading, or STEM.
2. Maintain a cumulative GPA of 3.0 or better.
3. Passing score on Praxis II, Elementary Education: Multiple Subjects
4. All non-methods math, science, social studies and English Language Arts courses must be completed prior to senior year.

All program courses must have a grade of "C" or better. No teaching methods courses may be taken as self-paced (correspondence) courses.

For licensure, students must continue in the Master of Arts in Teaching program, which has limited enrollment. Find out more about the M.A.T. Program (<http://catalog.uark.edu/graduatecatalog/programsofstudy/childhoodeducationmat>) in the Graduate Catalog.

## Childhood Education Requirements

Students in the Childhood Education program must choose one of four concentrations: English as a Second Language Concentration, a Gifted and Talented Concentration, a Reading Concentration, or a STEM Concentration.

## Reading Concentration (READ)

### Pre-Elementary Education (PELED) requirements <sup>†</sup>

University Core (State Minimum Core)	35
Specifically required for CHED program	
ENGL 1013	Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)
ENGL 1023	Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)
MATH 1203	College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)

BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL & BIOL 1541L 1014 Lecture) (Sp, Su, Fa)  
and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)

GEOS 1113 General Geology (ACTS Equivalency = GEOL & GEOS 1111L 1114 Lecture) (Sp, Su, Fa)  
and General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)

HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)

GEOS 1123 Human Geography (ACTS Equivalency = GEOG 1113) (Sp, Su, Fa)  
or ANTH 102 Introduction to Cultural Anthropology (ACTS Equivalency = ANTH 2013) (Sp, Su, Fa)

HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)

HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)  
or HIST 112 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)

ARHS 1003 Basic Course in the Arts: Art Lecture (ACTS Equivalency = ARTA 1003) (Sp, Su, Fa)

COMM 1233 Media, Community and Citizenship (Sp, Fa)  
or WLIT 111 World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)

or PHIL 200 Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)

or PHIL 210 Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)

or PHIL 220 Logic (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)  
or PHIL 310 Ethics and the Professions (Sp, Su, Fa)

### Additional PELED requirements 28

CIED 1013 Introduction to Education (Sp, Fa)

COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)

or COMM 2323 Interpersonal Communication (Sp, Su, Fa)

HIST 3383 Arkansas and the Southwest (Sp, Fa) (or any 3hr Arkansas history course)

MATH 2213 Survey of Mathematical Structures I (Sp, Su, Fa)

MATH 2223 Survey of Mathematical Structures II (Sp, Su, Fa)

MLIT 1003 Experiencing Music (ACTS Equivalency = MUSC 1003) (Sp, Su, Fa)

PHYS 1034 Physics for Elementary Education Majors (Sp)

or ASTR Survey of the Universe (ACTS Equivalency = PHSC 2003/2001L 1204 Lecture) (Sp, Su, Fa)

or STEM 411 Astronomy for Educators (Sp, Fa)

PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)

STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa) (or any 3hr Statistics course)

### Childhood Education major requirements 47

To be completed following admission to CHED program

ENGL 2003 Advanced Composition (Sp, Su, Fa)

ENSC 1003 Environmental Science (Sp, Fa)

3 hour Math Elective (consult adviser)

ECON 3053 Economics for Elementary Teachers (Fa)

or ECON 21·Basic Economics: Theory and Practice (Sp, Su, Fa)		
CIED 3013	Development and Learning Theories in the K-6 Classroom (Sp, Fa) †	
CIED 3023	Survey of Exceptionalities (Sp, Su, Fa) †	
CIED 3053	The Emerging Adolescent (Sp, Fa) †	
CIED 3103	Children and Adolescent Literature (Sp, Fa) †	
CIED 3113	Emergent and Developmental Literacy (Sp, Fa) †	
CIED 3123	Mathematics Methods in the K-6 Classroom (Sp, Fa) †	
CIED 3133	Integrated Social Studies for the K-6 Classroom (Sp, Fa) †	
CIED 3143	Teaching Science in the Elementary Grades (Sp, Fa) †	
CIED 3262	Language Development for the Educator (Sp, Fa) †	
CIED 4113	Integrated Communication Skills for the K-6 Classroom (Sp, Fa) †	
CIED 4153	Classroom Management in the Elementary Grades (Sp, Fa) †	
CIED 4363	Disciplinary Literacy in the K-6 Classroom (Sp, Fa) †	
<b>READ Concentration requirements</b>		<b>12</b>
3 hour General Elective		
CIED 4423	Teaching English as a Second Language (Sp) †	
SPED 5173	Introduction to Dyslexia: Literacy Development & Structure of Language (Fa)	
STEM 4033	Introduction to STEM Education (Sp, Su) †	
	or STEM 5023 Creativity and Innovation in STEM (Su, Fa)	
<b>Total Hours</b>		<b>122</b>

† Must have a grade of 'C' or better to award degree credit

## Childhood Education B.S.E. (READ concentration) Eight-Semester Plan

Because this program requires admission to progress, it does not qualify for the university's Eight-Semester Degree Program; however, students who qualify to finish a degree in four years can follow the suggested order of classes below.

	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3	
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	4	
ARHS 1003 Basic Course in the Arts: Art Lecture (ACTS Equivalency = ARTA 1003) (Sp, Su, Fa)	3	
HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3

STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa) (or any 3hr Statistics course)		3
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa) or COMM 2323 Interpersonal Communication (Sp, Su, Fa)		3
CIED 1013 Introduction to Education (Sp, Fa)		3
HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)		3
<b>Year Total:</b>	<b>16</b>	<b>15</b>

	Units	
	Fall	Spring
PHYS 1034 Physics for Elementary Education Majors (Sp) or ASTR 2003 and ASTR 2001L or STEM 4104 Astronomy for Educators (Sp, Fa)	4	
COMM 1233 Media, Community and Citizenship (Sp, Fa) or PHIL 2003 Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa) or PHIL 2103 Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa) or PHIL 2203 Logic (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa) or PHIL 3103 Ethics and the Professions (Sp, Su, Fa) or WLIT 1113 World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)	3	
MATH 2213 Survey of Mathematical Structures I (Sp, Su, Fa)		3
PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)		3
MLIT 1003 Experiencing Music (ACTS Equivalency = MUSC 1003) (Sp, Su, Fa)		3
HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)		3
GEOS 1113 General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa) & GEOS 1111L General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)		4
MATH 2223 Survey of Mathematical Structures II (Sp, Su, Fa)		3
GEOS 1123 Human Geography (ACTS Equivalency = GEOG 1113) (Sp, Su, Fa) or ANTH 1023 Introduction to Cultural Anthropology (ACTS Equivalency = ANTH 2013) (Sp, Su, Fa)		3
Select one of the following:		3
HIST 3383 Arkansas and the Southwest (Sp, Fa)		
Any 3-hour Arkansas History course		
<b>Year Total:</b>	<b>16</b>	<b>16</b>



Third Year	Units	
	Fall	Spring
CIED 3013 Development and Learning Theories in the K-6 Classroom (Sp, Fa)	3	
ENGL 2003 Advanced Composition (Sp, Su, Fa)	3	
CIED 3103 Children and Adolescent Literature (Sp, Fa)	3	
CIED 3262 Language Development for the Educator (Sp, Fa)	2	
Electives	3	
CIED 3113 Emergent and Developmental Literacy (Sp, Fa)		3
CIED 3053 The Emerging Adolescent (Sp, Fa)		3
ENSC 1003 Environmental Science (Sp, Fa)		3
Math Electives		3
ECON 3053 Economics for Elementary Teachers (Fa)		3
or ECON 2143 Basic Economics: Theory and Practice (Sp, Su, Fa)		3
Year Total:	14	15

Fourth Year	Units	
	Fall	Spring
CIED 3123 Mathematics Methods in the K-6 Classroom (Sp, Fa)	3	
CIED 4113 Integrated Communication Skills for the K-6 Classroom (Sp, Fa)	3	
STEM 4033 Introduction to STEM Education (Sp, Su)	3	
CIED 3133 Integrated Social Studies for the K-6 Classroom (Sp, Fa)	3	
CIED 4423 Teaching English as a Second Language (Sp)	3	
CIED 4153 Classroom Management in the Elementary Grades (Sp, Fa)		3
CIED 4363 Disciplinary Literacy in the K-6 Classroom (Sp, Fa)		3
CIED 3143 Teaching Science in the Elementary Grades (Sp, Fa)		3
CIED 3023 Survey of Exceptionalities (Sp, Su, Fa)		3
SPED 5173 Introduction to Dyslexia: Literacy Development & Structure of Language (Fa)		3
Year Total:	15	15

Total Units in Sequence: 122

## Requirements for B.S.E. in Childhood Education with STEM Concentration

Admission to the B.S.E. in Childhood Education is competitive and consists of a three-stage process; simply meeting the minimum requirements will not guarantee admission to the program. Admission will be determined by the Childhood Education faculty based on the seven items listed below in Stage II.

### Stage I: Pre-Elementary Education (PELED)

Complete all 63 hours of program pre-requisites (see below).

1. Obtain a GPA of 3.0 or better on UA coursework.
2. †Complete all program courses with a "C" or better.
3. Obtain a passing score on the Math, Reading, and Writing sections of the Praxis Core or ACT.
4. Complete a background check.

### Stage II: Admission to the Childhood Education Program (CHED)

Admission to the Childhood Education Program is competitive and completion of all Pre-Elementary Education requirements must occur prior to entering the Childhood Education Program of Study the following fall term. Not all applicants meeting the minimum requirements will be admitted to the program. Applications to the Childhood Education (CHED) program must be submitted by Jan. 30. At this point applicants must decide which program option they will follow; either CHED B.S.E. leading to M.A.T. option or ELEM B.S.E. licensure option. Both of these options are described on the application, which can be found on the College of Education and Health Professions website (<http://cied.uark.edu/2360.htm>).

The application process includes:

1. Submission of the application to teacher education (see the Teacher Education Application Fee (p. 61)) through the university-wide Teacher Education Office.
2. Submission of Childhood Education application.
3. Submission of transcripts for all coursework.
4. Oral Interview with Childhood Education faculty.
5. Submission of Writing Sample.
6. Submission of passing score on Math, Reading, and Writing sections of the Praxis Core Exam.
7. Current background check

### Stage III: Requirements for Program Continuation

1. Declaration of endorsement area of ESL, GT, Reading, or STEM.
2. Maintain a cumulative GPA of 3.0 or better.
3. Passing score on Praxis II, Elementary Education: Multiple Subjects
4. All non-methods math, science, social studies and English Language Arts courses must be completed prior to senior year.

All program courses must have a grade of "C" or better. No teaching methods courses may be taken as self-paced (correspondence) courses.

For licensure, students must continue in the Master of Arts in Teaching program, which has limited enrollment. Find out more about the M.A.T. Program (<http://catalog.uark.edu/graduatecatalog/programsofstudy/childhoodeducationmat>) in the Graduate Catalog.

## Childhood Education Requirements

Students in the Childhood Education program must choose one of four concentrations: English as a Second Language Concentration, a Gifted and Talented Concentration, a Reading Concentration, or a STEM Concentration.

## STEM Concentration (STEM)

### Pre-Elementary Education (PELED) requirements †

University Core (State Minimum Core)

35

Specifically required for CHED program

ENGL 1013	Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)
ENGL 1023	Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)
MATH 1203	College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)
BIOL 1543 & BIOL 1541L	Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)
GEOS 1113 & GEOS 1111L	General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa) and General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)
HIST 2003	History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)
GEOS 1123	Human Geography (ACTS Equivalency = GEOG 1113) (Sp, Su, Fa)
	or ANTH 102: Introduction to Cultural Anthropology (ACTS Equivalency = ANTH 2013) (Sp, Su, Fa)
HIST 2013	History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)
HIST 1113	Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)
	or HIST 112: Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)
ARHS 1003	Basic Course in the Arts: Art Lecture (ACTS Equivalency = ARTA 1003) (Sp, Su, Fa)
COMM 1233	Media, Community and Citizenship (Sp, Fa)
	or WLIT 111: World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)
	or PHIL 200: Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)
	or PHIL 210: Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)
	or PHIL 220: Logic (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)
	or PHIL 310: Ethics and the Professions (Sp, Su, Fa)

**Additional PELED requirements** 28

CIED 1013	Introduction to Education (Sp, Fa)
COMM 1313	Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)
	or COMM 232: Interpersonal Communication (Sp, Su, Fa)
HIST 3383	Arkansas and the Southwest (Sp, Fa) (or any 3 hour Arkansas history course)
MATH 2213	Survey of Mathematical Structures I (Sp, Su, Fa)
MATH 2223	Survey of Mathematical Structures II (Sp, Su, Fa)
MLIT 1003	Experiencing Music (ACTS Equivalency = MUSC 1003) (Sp, Su, Fa)
PHYS 1034	Physics for Elementary Education Majors (Sp)
	or ASTR 2003/2001L: Survey of the Universe (ACTS Equivalency = PHSC 1204 Lecture) (Sp, Su, Fa)
	or STEM 41: Astronomy for Educators (Sp, Fa)
PLSC 2003	American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)
STAT 2303	Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa) (or any 3hr Statistics course)

**Childhood Education major requirements** 47

To be completed following admission to CHED program	
ENGL 2003	Advanced Composition (Sp, Su, Fa)
ENSC 1003	Environmental Science (Sp, Fa)
3 hour MATH Elective (consult adviser)	
ECON 3053	Economics for Elementary Teachers (Fa)
	or ECON 21: Basic Economics: Theory and Practice (Sp, Su, Fa)
CIED 3013	Development and Learning Theories in the K-6 Classroom (Sp, Fa) †
CIED 3023	Survey of Exceptionalities (Sp, Su, Fa) †
CIED 3053	The Emerging Adolescent (Sp, Fa) †
CIED 3103	Children and Adolescent Literature (Sp, Fa) †
CIED 3113	Emergent and Developmental Literacy (Sp, Fa) †
CIED 3123	Mathematics Methods in the K-6 Classroom (Sp, Fa) †
CIED 3133	Integrated Social Studies for the K-6 Classroom (Sp, Fa) †
CIED 3143	Teaching Science in the Elementary Grades (Sp, Fa) †
CIED 3262	Language Development for the Educator (Sp, Fa) †
CIED 4113	Integrated Communication Skills for the K-6 Classroom (Sp, Fa) †
CIED 4153	Classroom Management in the Elementary Grades (Sp, Fa) †
CIED 4363	Disciplinary Literacy in the K-6 Classroom (Sp, Fa) †
<b>STEM Concentration requirements</b> 12	
3 hour General Elective	
CIED 4423	Teaching English as a Second Language (Sp) †
STEM 4033	Introduction to STEM Education (Sp, Su) †
STEM 5023	Creativity and Innovation in STEM (Su, Fa) †

Total Hours 122

† Must have a grade of 'C' or better to award degree credit

1 Or any 3-hour Arkansas History course

**Childhood Education B.S.E. (STEM concentration)****Eight-Semester Plan**

Because this program requires admission to progress, it does not qualify for the university's Eight-Semester Degree Program; however, students who qualify to finish a degree in four years can follow the suggested order of classes below.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3	
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	4	

ARHS 1003 Basic Course in the Arts: Art Lecture (ACTS Equivalency = ARTA 1003) (Sp, Su, Fa)	3	
HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa) (or any 3 hr Statistics course)		3
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)		3
or COMM 2323 Interpersonal Communication (Sp, Su, Fa)		
CIED 1013 Introduction to Education (Sp, Fa)		3
HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)		3
Year Total:	16	15

**Second Year**

	Fall	Units Spring
PHYS 1034 Physics for Elementary Education Majors (Sp)	4	
or ASTR 2003 and ASTR 2001L		
or STEM 4104 Astronomy for Educators (Sp, Fa)		
COMM 1233 Media, Community and Citizenship (Sp, Fa)		3
or PHIL 2003 Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)		
or PHIL 2103 Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)		
or PHIL 2203 Logic (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)		
or PHIL 3103 Ethics and the Professions (Sp, Su, Fa)		
or WLIT 1113 World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)		
MATH 2213 Survey of Mathematical Structures I (Sp, Su, Fa)		3
PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)		3
MLIT 1003 Experiencing Music (ACTS Equivalency = MUSC 1003) (Sp, Su, Fa)		3
HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)		3
GEOS 1113 General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa)		4
& GEOS 1111L General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)		
MATH 2223 Survey of Mathematical Structures II (Sp, Su, Fa)		3
or ANTH 1023 Introduction to Cultural Anthropology (ACTS Equivalency = ANTH 2013) (Sp, Su, Fa)		

GEOS 1123 Human Geography (ACTS Equivalency = GEOG 1113) (Sp, Su, Fa)		3
or ANTH 1023 Introduction to Cultural Anthropology (ACTS Equivalency = ANTH 2013) (Sp, Su, Fa)		
Select one of the following:		3
HIST 3383 Arkansas and the Southwest (Sp, Fa)		
Any 3-hour Arkansas History course		
Year Total:	16	16

**Third Year**

	Fall	Units Spring
CIED 3013 Development and Learning Theories in the K-6 Classroom (Sp, Fa)	3	
ENGL 2003 Advanced Composition (Sp, Su, Fa)		3
CIED 3103 Children and Adolescent Literature (Sp, Fa)		3
CIED 3262 Language Development for the Educator (Sp, Fa)		2
Electives		3
CIED 3113 Emergent and Developmental Literacy (Sp, Fa)		3
CIED 3053 The Emerging Adolescent (Sp, Fa)		3
ENSC 1003 Environmental Science (Sp, Fa)		3
Math Electives		3
ECON 3053 Economics for Elementary Teachers (Fa)		3
or ECON 2143 Basic Economics: Theory and Practice (Sp, Su, Fa)		
Year Total:	14	15

**Fourth Year**

	Fall	Units Spring
CIED 3123 Mathematics Methods in the K-6 Classroom (Sp, Fa)	3	
CIED 4113 Integrated Communication Skills for the K-6 Classroom (Sp, Fa)		3
CIED 4423 Teaching English as a Second Language (Sp)		3
CIED 3133 Integrated Social Studies for the K-6 Classroom (Sp, Fa)		3
STEM 4033 Introduction to STEM Education (Sp, Su)		3
CIED 4153 Classroom Management in the Elementary Grades (Sp, Fa)		3
CIED 4363 Disciplinary Literacy in the K-6 Classroom (Sp, Fa)		3
CIED 3143 Teaching Science in the Elementary Grades (Sp, Fa)		3
CIED 3023 Survey of Exceptionalities (Sp, Su, Fa)		3
STEM 5023 Creativity and Innovation in STEM (Su, Fa)		3
Year Total:	15	15

Total Units in Sequence:

122

## Communication Disorders (CDIS)

### Faculty

**Mitchell D. Barker**, Lecturer

**Andrew L. Bowers**, Assistant Professor

**Lisa Marie Bowers**, Assistant Professor

**Aletha Cook**, Clinical Instructor

**Kimberly Frances Frazier**, Associate Professor

**Margie Gilbertson**, Clinical Instructor

**Rachel E. Glade**, Clinical Instructor

**Fran W. Hagstrom**, Associate Professor

**Christine Holfield**, Assistant Professor

**Kim Perry**, Instructor

**Mary Ann Toner**, Associate Professor

Larry Aslin

Undergraduate Adviser

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Speech and Hearing Clinic

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An undergraduate major in communication disorders leads to the B.S.E. degree and prepares students for graduate studies (master's level) in speech-language pathology and/or the professional doctorate in audiology. The minimum requirements for all students in the college are listed under general studies (p. 419).

Admission to the B.S.E. Major Degree Program in Communication Disorders is competitive and consists of a three-stage process. Students must apply for formal admission to the undergraduate B.S.E. degree program in Communication Disorders prior to taking junior- and senior-level classes in the major.

### Stage I: Pre-Communication Disorders (PCDIS)

All students declaring a major in communication disorders are accepted as tentative candidates to the undergraduate program and assigned the pre-communication code - PCDIS.

The PCDIS program includes:

1. Complete all program pre-requisites courses.
2. Obtain a minimum cumulative grade-point average of 3.0 on all college level coursework.
3. Complete the following courses with a "C" or better: ENGL 1013 and ENGL 1023, MATH 1203 or equivalent, and COMM 1313.
4. Obtain passing scores on the *Core Academic Skills for Educator: Math, Reading, and Writing* sections of the Praxis Core Exam.

Students who do not meet admission criteria for the B.S.E. degree program in communication disorders in any given year may reapply in subsequent years.

### Stage II: Admission to the Communication Disorders Program (CDIS)

Admission to the Communication Disorders Program is competitive and occurs after completion of all Pre-Communication Disorders requirements and prior to the beginning of the fall semester of the junior year.

Applications to the Communication Disorders (CDIS) program must be submitted by January 30th.

The application process includes:

1. Submission of Communication Disorders Application, Form, Letter of Intent, and Curriculum Guide Form.
2. Submission of transcripts for all coursework
3. Submission of passing score on Math, Reading, and Writing sections of Praxis Core Exam
4. Satisfactory completion of an admission interview with designated faculty

As a result of the competitive process, not all applicants meeting the minimum requirements will be admitted to the program.

### Stage III: Requirements for Program Continuation and Completion

1. Maintain a minimum cumulative GPA of 3.0.
2. In order to enroll in CDIS 4001 Clinical Practicum: Undergraduate, students must have an overall GPA of 3.0 in the following courses: CDIS 2253, CDIS 3124, CDIS 3213, CDIS 3224, CDIS 3203, CDIS 4223 and a "B" in CDIS 3233. Clinical Practice is an elective for undergraduates and is taken for course credit hours, not a grade.
3. Meet all university requirements for graduation.

### Requirements for Communication Disorders (CDIS)

#### University Core (State Minimum Core)

35

Of which Communications Disorders requires the following specific courses:

BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL & BIOL 1541L 1014 Lecture) (Sp, Su, Fa)

and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)

PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)

ANTH 1023 Introduction to Cultural Anthropology (ACTS Equivalency = ANTH 2013) (Sp, Su, Fa)

Select one of the following:

PHYS 1023 Physics and Human Affairs (Sp, Su, Fa) & PHYS 1021L and Physics and Human Affairs Laboratory (Sp, Su, Fa)

PHYS 2013 College Physics I (ACTS Equivalency = PHYS & PHYS 2011L 2014 Lecture) (Su, Fa) and College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab) (Su, Fa)

CHEM 1073 Fundamentals of Chemistry (ACTS Equivalency = & CHEM 1071L CHEM 1214 Lecture) (Su, Fa) and Fundamentals of Chemistry Laboratory (ACTS Equivalency = CHEM 1214 Lab) (Fa)

**Program specific course requirements for Communication Disorders - 9 hours total**

Select one of the following:	3
ENGL 2003 Advanced Composition (Sp, Su, Fa)	
ENGL 2013 Essay Writing (Sp, Su)	
ENGL 3053 Technical and Report Writing (ACTS Equivalency = ENGL 2023) (Sp, Fa)	
CDIS 498VH Honors Communication Disorders Thesis/Project (Sp, Su, Fa) <sup>1</sup>	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3
PBHL 2663 Terminology for the Health Professions (Sp)	3
<b>Communication Disorders Major Requirements - 41 credit hours</b>	<b>41</b>
CDIS 2253 Introduction to Communicative Disorders (Sp, Fa)	
CDIS 3103 Introduction to Audiology (Fa)	
CDIS 3124 Normal Phonology and Articulatory Process (Fa)	
CDIS 3213 Anatomy of Physiology of the Speech and Hearing Mechanisms (Fa)	
CDIS 3224 Language Development in Children (Fa)	
CDIS 3203 Articulation Disorders (Sp)	
CDIS 3233 Introduction to Clinical Practice (Sp)	
CDIS 4133 Introduction to Aural Rehabilitation (Sp)	
CDIS 4253 Neurological Bases of Communication (Fa)	
CDIS 4273 Communication Behavior and Aging (Fa)	
CDIS 4213 Introduction to Speech and Hearing Science (Sp)	
CDIS 4183 Clinical Assessment of Speech and Language Disorders (Sp)	
CDIS 4223 Language Disorders in Children (Sp)	
<b>Electives</b>	<b>35</b>
Total Hours	120

<sup>1</sup> Option only for students successfully completing Honors Program

## Communication Disorders B.S.E. Eight-Semester Plan

All CDIS students are accepted as tentative candidates and thus not eligible for the eight-semester degree plan. Students must apply for formal admission to the undergraduate B.S.E. degree program in CDIS prior to taking junior- and senior-level classes in the major. However, students who qualify to finish a degree in four years can follow the suggested order of classes below.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3	
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	4	
U.S. History/Government	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
Fine Arts or Humanities <sup>1</sup>		3

COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)		3
Electives		6
Year Total:	13	15

**Second Year**

	Units	
	Fall	Spring
ANTH 1023 Introduction to Cultural Anthropology (ACTS Equivalency = ANTH 2013) (Sp, Su, Fa) <sup>2</sup>	3	
CDIS 2253 Introduction to Communicative Disorders (Sp, Fa)	3	
PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa) <sup>2</sup>	3	
Choose one science/lab from the following:	4	
PHYS 1023 Physics and Human Affairs (Sp, Su, Fa) & PHYS 1021L Physics and Human Affairs Laboratory (Sp, Su, Fa)		
CHEM 1073 Fundamentals of Chemistry (ACTS Equivalency = CHEM 1214 Lecture) (Su, Fa) & CHEM 1071L Fundamentals of Chemistry Laboratory (ACTS Equivalency = CHEM 1214 Lab) (Fa)		
PHYS 2013 College Physics I (ACTS Equivalency = PHYS 2014 Lecture) (Su, Fa) & PHYS 2011L College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab) (Su, Fa)		
PBHL 2663 Terminology for the Health Professions (Sp)		3
Social Science <sup>1</sup>		3
Fine Arts/Humanities <sup>1</sup>		3
Electives		6
Year Total:	13	15

**Third Year**

	Units	
	Fall	Spring
CDIS 3124 Normal Phonology and Articulatory Process (Fa)	4	
CDIS 3213 Anatomy of Physiology of the Speech and Hearing Mechanisms (Fa)	3	
CDIS 3224 Language Development in Children (Fa)	4	
Electives	5	
CDIS 3203 Articulation Disorders (Sp)		3
CDIS 3233 Introduction to Clinical Practice (Sp)		3
CDIS 4223 Language Disorders in Children (Sp)		3
ENGL 2003 Advanced Composition (Sp, Su, Fa) or ENGL 2013 Essay Writing (Sp, Su) or ENGL 3053 Technical and Report Writing (ACTS Equivalency = ENGL 2023) (Sp, Fa) or CDIS 498VH Honors Communication Disorders Thesis/Project (Sp, Su, Fa)		3
Elective		3
Year Total:	16	15

Fourth Year	Units	
	Fall	Spring
CDIS 3103 Introduction to Audiology (Fa)	3	
CDIS 4253 Neurological Bases of Communication (Fa)	3	
CDIS 4273 Communication Behavior and Aging (Fa)	3	
Electives (Recommend: CDIS 4001 Clinical Practicum: Undergraduate)	6	
CDIS 4133 Introduction to Aural Rehabilitation (Sp)		3
CDIS 4213 Introduction to Speech and Hearing Science (Sp)		3
CDIS 4183 Clinical Assessment of Speech and Language Disorders (Sp)		3
Electives		6
Year Total:	15	15
Total Units in Sequence:		117

<sup>1</sup> Must meet University Core requirements (p. 81).

<sup>2</sup> Required Social Science Core for CDIS majors.

<sup>3</sup> CDIS 498VHCDIS 498VH: Option only for students successfully completing Honors Program.

## Curriculum and Instruction (CIED)

### Faculty

**Richard Abernathy**, Clinical Assistant Professor  
**Denise Tobin Ariola**, Clinical Assistant Professor  
**Daniel Barth**, Clinical Assistant Professor  
**Jennifer G. Beasley**, Clinical Assistant Professor  
**Dennis E. Beck**, Associate Professor  
**Karmen V. Bell**, Clinical Instructor  
**Ed Bengtson**, Associate Professor  
**Freddie A. Bowles**, Associate Professor  
**Kevin P. Brady**, Associate Professor  
**Deborah A. Brown**, Clinical Assistant Professor  
**Donna S. Broyles**, Instructor  
**Stephen Burgin**, Assistant Professor  
**Vinson R. Carter**, Assistant Professor  
**Vicki S. Collet**, Assistant Professor  
**Kathleen Collins**, Professor  
**Sean P. Connors**, Associate Professor  
**Tracey Crowe**, Clinical Assistant Professor  
**Michael Daugherty**, Professor  
**Sheri Deaton**, Instructor  
**Eva I. Diaz**, Research Associate  
**Linda Hale Eilers**, Clinical Associate Professor  
**Angela Carlton Elsass**, Clinical Associate Professor  
**Jason L. Endacott**, Associate Professor  
**Conra D. Gist**, Assistant Professor  
**Christian Z. Goering**, Associate Professor  
**Aleza R.S. Greene**, Clinical Assistant Professor  
**David Hanson**, Clinical Instructor  
**Kristina-Marie Howlett**, Assistant Professor  
**Rhett J. Hutchins**, Clinical Assistant Professor  
**Marcia B. Imbeau**, Professor  
**Charlene M. Johnson-Carter**, Associate Professor  
**Marsha L. Jones**, Instructor

**Laura B. Kent**, Associate Professor  
**Grace R. Kerr**, Clinical Instructor  
**Heather D. Kindall**, Assistant Professor  
**Bonnie King**, Clinical Instructor  
**Suzanne Kucharczyk**, Assistant Professor  
**Kara A. Lasater**, Visiting Assistant Professor  
**Felicia Lincoln**, Associate Professor  
**Elizabeth R. Lorah**, Assistant Professor  
**Kim Krusen McComas**, Clinical Assistant Professor  
**William McComas**, Professor, Parks Family Professor of Science Education  
**Derrick Mears**, Clinical Associate Professor  
**Jaime C. Miller**, Instructor  
**Denise Ann Mounts**, Clinical Associate Professor  
**Cheryl Ann Murphy**, Professor  
**Ginney Norton**, Instructor  
**Cynthia Orona**, Assistant Professor  
**Betsy Orr**, Associate Professor  
**Donna S. Owen**, Clinical Instructor  
**Janet Penner-Williams**, Associate Professor  
**John C. Pijanowski**, Professor  
**Christine R. Ralston**, Clinical Assistant Professor  
**Peggy Schaefer-Whitby**, Associate Professor  
**Tom E.C. Smith**, University Professor  
**Peggy Ward**, Clinical Assistant Professor  
**Cathy Wissehr**, Clinical Associate Professor

Cheryl Murphy  
 Department Head  
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The Department of Curriculum and Instruction sponsors initial teacher licensure programs in the areas of career and technical education (p. 424), elementary education (p. 454), childhood education (p. 431) and special education (p. 468). The department also offers additional licensure plans in ESL, gifted and talented, special education and selected other areas (please see College Web Site licensure link). The Special Education Program also offers a Graduate Certificate in Autism Spectrum Disorders (ASD) as well as a Graduate Certificate in STEM education for Childhood Education candidates. Additional secondary school licensure programs are made available with the cooperation of the Department of Health Science, Kinesiology, Recreation, and Dance; the Department of Rehabilitation, Human Resources and Communication Disorders; the J. William Fulbright College of Arts and Sciences; and the Dale Bumpers College of Agricultural, Food and Life Sciences.

The department offers a non-licensure program in educational studies (p. 445) for students wishing to focus on general theory and practice of learning and teaching. This major gives students the cognitive ability to apply teaching strategies to a variety of employers in private sector businesses, nonprofit organizations, and community agencies.

### Minor in Secondary Mathematics or Science Teacher Education UAteach

The Department of Curriculum and Instruction offers an undergraduate minor in Secondary Mathematics and/or Science Education through UAteach, a joint program between College of Education and Health Professions and Fulbright College of Arts and Sciences.

To qualify for the minor, a student must be pursuing a major in mathematics or science and complete the set of courses listed below:

STEM 2103	Knowing and Learning in Science and Mathematics (Sp, Fa)	3
STEM 2203	Classroom Interactions (Fa)	3
STEM 3303	Project Based Instruction for Secondary Mathematics and Science (Fa)	3
STEM 4409	Supervised Clinical Teaching in Science and Mathematics Education (Sp)	9
Total Hours		18

Please note, the minor alone does not represent completion of the teacher preparation program. In order for the university to recommend a teaching license, students must successfully complete the following additional classes:

ARSC 1201	Inquiry Approaches to Teaching: UAteach Step I (Sp, Fa)	1
ARSC 1221	Inquiry-Based Lesson Design: UAteach Step II (Sp, Fa)	1
MATH 2903	Functions, Foundations and Models (Sp, Fa)	3
BIOL 3273	UAteach Research Methods (Sp)	3
	or PHYS 3273 UAteach Research Methods (Sp)	
	or CHEM 3273 UAteach Research Methods (Sp)	
STEM 4333	Perspectives on Science and Mathematics (Sp)	3

In addition to these courses, students must successfully pass the Praxis Core (Reading, Writing, and Math), Praxis II (Principles of Learning and Teaching), Praxis Math or Science Content tests, submit a portfolio, and pass a state criminal background check.

Please note that individuals may become teachers in a variety of subjects including mathematics and science through the Master of Arts in Teaching program at the graduate level. For more information about UAteach contact teach@uark.edu

## Dance Activity (DEAC)

The Department of Health, Human Performance and Recreation offers coursework in Dance Activity but has no degree program in dance.

## Educational Studies (EDST)

The Bachelor of Science in Education in Educational Studies (B.S.E.) is a customizable degree for all students within the College of Education and Health Professions. It focuses on the general theory and practice of learning and teaching. This degree, in itself, does not include licensure. Students completing this program will have the cognitive ability to apply teaching strategies to a variety of employers such as private sector businesses, nonprofit organizations and community agencies. With additional training and licensure, students can also work in school settings.

### Educational Studies (EDST) requirements

<b>University Core (State Minimum Core)</b> *		35
PSYC 2003	General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa) <sup>1</sup>	
<b>Educational Base Courses</b>		45
CIED 1013	Introduction to Education (Sp, Fa)	
CIED 3023	Survey of Exceptionalities (Sp, Su, Fa)	

CIED 3033	Classroom Learning Theory (Sp, Su, Fa)	
CIED 4413	Acquiring a Second Language (Fa)	
	or CIED 4403 Understanding Cultures in the Classroom (Su, Fa)	
EDST 3113	Legal & Historical Developments in Education (Fa)	
EDST 3203	Multicultural Education Issues (Fa)	
EDST 3223	American Educational History (Sp)	
EDST 3333	Children's & Young Adult Literature in Educational Settings (Fa)	
EDST 4003	Philosophy and Inquiry in Education (Sp)	
EDST 4113	Teaching and Funding Outdoor & Informal Education (Sp)	
EDST 4213	Religion, Education, & Religious Education (Fa)	
CNED 3053	The Helping Relationship (Sp, Fa)	
	or CNED 4003 Classroom Human Relations Skills (Sp, Fa)	
ENGL 2173	Literacy in America (Sp)	
CDIS 2253	Introduction to Communicative Disorders (Sp, Fa)	
	or PBHL 2618 Foundations of Public Health (Sp)	
	or PBHL 2663 Terminology for the Health Professions (Sp)	
	or RESM 2853 Leisure and Society (Sp, Su, Fa)	
	or SCWK 2133 Introduction to Social Work (Sp, Su, Fa)	
HRWD 3123	Career Development (Su, Fa)	
	or SCWK 31 Human Diversity and Social Work (Sp, Su, Fa)	
	or SCWK 32 Contemporary Issues in Juvenile Justice (Sp, Su, Fa)	
	or SCWK 36 Child Welfare: 21st Century Perspectives (Irregular)	
<b>Experiential Courses</b>		9
EDST 3023	Internship in Educational Studies (Sp, Su, Fa)	
EDST 3023	Internship in Educational Studies (Sp, Su, Fa)	
EDST 4013	Capstone Seminar and Final Internship in Education (Sp, Su, Fa)	
<b>Elective Hours</b>		
Upper Level Electives <sup>2</sup>		15
Lower Level Electives <sup>2</sup>		16
Total Hours		120

\* For courses, go to the University Core (p. 81) requirements.

<sup>1</sup> Pre-requisite for CIED 3033, CNED 3053, and CNED 4003.

<sup>2</sup> Of the 31 remaining credit hours, 15 hours must be upper level (3000/4000) courses. The remaining General Electives 16 hours, may be at any level and any course offered university-wide.

### Educational Studies B.S.E. Eight-Semester Plan

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
Mathematics Core		3
Science Core w/lab		4
Social Science Core		3
Fine Arts/Humanities Core		3

CIED 1013 Introduction to Education (Sp, Fa)	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)	3	
Social Science Core	3	
Humanities/Fine Arts Core	3	
Lower Level Elective <sup>1</sup>	2	
Year Total:	16	14

Second Year	Units	
	Fall	Spring
PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)	3	
Science Core with lab	4	
History Core	3	
Lower Level Electives <sup>1</sup>	5	
ENGL 2173 Literacy in America (Sp)		3
CDIS 2253 Introduction to Communicative Disorders (Sp, Fa)		3
or PBHL 2613 Foundations of Public Health (Sp)		
or PBHL 2663 Terminology for the Health Professions (Sp)		
or RESM 2853 Leisure and Society (Sp, Su, Fa)		
or HESC 2603 Rural Families and Communities (Sp)		
or SCWK 2133 Introduction to Social Work (Sp, Su, Fa)		
Lower Level Electives <sup>1</sup>		9
Year Total:	15	15

Third Year	Units	
	Fall	Spring
EDST 3113 Legal & Historical Developments in Education (Fa)	3	
CNED 3053 The Helping Relationship (Sp, Fa)	3	
or CNED 4003 Classroom Human Relations Skills (Sp, Fa)		
CIED 3033 Classroom Learning Theory (Sp, Su, Fa)	3	
EDST 3203 Multicultural Education Issues (Fa)	3	
EDST 3333 Children's & Young Adult Literature in Educational Settings (Fa)	3	
EDST 3023 Internship in Educational Studies (Sp, Su, Fa)		3
EDST 3223 American Educational History (Sp)		3
CIED 3023 Survey of Exceptionalities (Sp, Su, Fa)		3
EDST 4113 Teaching and Funding Outdoor & Informal Education (Sp)		3
Upper Level Elective <sup>2</sup>		3
Year Total:	15	15

Fourth Year	Units	
	Fall	Spring
EDST 3023 Internship in Educational Studies (Sp, Su, Fa)	3	

EDST 4213 Religion, Education, & Religious Education (Fa)	3	
CIED 4413 Acquiring a Second Language (Fa) or CIED 4403 Understanding Cultures in the Classroom (Su, Fa)		3
HRWD 3123 Career Development (Su, Fa) or SCWK 3193 Human Diversity and Social Work (Sp, Su, Fa) or SCWK 3233 Contemporary Issues in Juvenile Justice (Sp, Su, Fa) or SCWK 3633 Child Welfare: 21st Century Perspectives (Irregular)		3
Upper Level Elective <sup>2</sup>		3
EDST 4013 Capstone Seminar and Final Internship in Education (Sp, Su, Fa) (Includes 90 hours of internship requirements.) <sup>3</sup>		3
EDST 4003 Philosophy and Inquiry in Education (Sp)		3
Upper Level Electives <sup>2</sup>		9
Year Total:		15

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Total Units in Sequence: 120

<sup>1</sup> Any 1000 or 2000 level course meets this requirement.

<sup>2</sup> Any 3000 or 4000 level course meets this requirement.

<sup>3</sup> EDST 4013 Capstone Seminar and Final Internship in Education (Sp, Su, Fa) includes 100 hours of internship and 20 hours of coursework.

## Eleanor Mann School of Nursing (NURS)

### Faculty

**Carol E. Agana**, Instructor  
**Hope Ballentine**, Instructor  
**Hilary Bowling**, Instructor  
**DeAnna Jan Emory**, Assistant Professor  
**Lisa Franks**, Instructor  
**Kelsey Gilmet**, Instructor  
**Cathy J. Hale**, Clinical Instructor  
**Teresa Hayden**, Adjunct Instructor  
**Jaye Henderson**, Clinical Instructor  
**Julie Hoff**, Associate Professor  
**Ginger L. Holloway**, Instructor  
**Anna Lee Jarrett**, Assistant Professor  
**Thomas A. Kippenbrock**, Professor  
**Peggy B. Lee**, Instructor  
**Annelle L. Lofton**, Clinical Instructor  
**Charleen McNeill**, Assistant Professor  
**Bettie Gale Miller**, Instructor  
**Lori M. Murray**, Instructor  
**Kim Knighten Oelke**, Instructor  
**Susan Kane Patton**, Assistant Professor  
**Lindsey Rachel Sabatini**, Instructor  
**Allison L. Scott**, Assistant Professor  
**Marilou D. Shreve**, Clinical Instructor  
**Nancy J. Smith-Blair**, Associate Professor  
**Angela Stewart**, Assistant Professor  
**Tabatha Teal**, Instructor  
**Mark S. Thomas**, Lecturer



**Holly M. Van Winkle**, Instructor  
**Kelly Vowell-Johnson**, Assistant Professor  
**Kerri L. Weber**, Instructor  
**Audrey Weymiller**, Associate Professor

Julie Anne Hoff  
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The Eleanor Mann School of Nursing contributes to the three purposes of the university: education, research and service. The mission of Eleanor Mann School of Nursing is to transform lives through nursing education and inspire leadership in nursing practice and academics to improve the health and well-being of society.

Professional nursing begins with a Bachelor of Science degree. Nursing education offers a research base for nursing practice that promotes the ability of the nurse to effect change needed to improve health. In the study of professional nursing, the student builds on a planned general education for the academic disciplines and acquires theoretical and specific knowledge to meet health care needs. In addition, the curriculum provides opportunity for students with technical nursing education to expand their knowledge and scope of practice. The baccalaureate program establishes a foundation for graduate education in nursing and for continued personal and professional development. The curriculum provides the student with a theoretical base to practice professional nursing with diverse clients in various settings through the roles of caregiver, manager, and teacher. The program of study has been designed to emphasize one or more of these roles in each nursing course.

Graduates of the program are eligible to apply to take the National Council Licensure Examination (NCLEX-RN) for licensure as a registered nurse (R.N.). Persons convicted of a crime may not be eligible to take the NCLEX-RN examination. A criminal background check is required before admission to the program and before graduation. A negative drug screen must be submitted prior to admission and annually while in the program. The Bachelor of Science in Nursing degree (B.S.N.) is awarded after successful completion of the nursing curriculum.

## Admission to the B.S.N. Program

### Admission Policies

### Conditional Admission to the Generic B.S.N. Program

Admission to the Generic B.S.N. program is limited. Conditional admission will be determined by the Eleanor Mann School of Nursing faculty. To be eligible to apply, students must have a cumulative GPA of #3.0. Admission requirements for the professional program of study are as follows:

1. Nursing prerequisite GPA  $\geq 3.0$  (GPA 4.0 X 7) – 28 points maximum
2. Completion of 4 required science courses (see below) with at least a C grade in each. Points will be awarded as follows: 4 points for each course taken at the UA, and 4 points for 1<sup>st</sup> attempt As and 2 points for first attempt Bs - 32 points maximum

CHEM 1073/CHEM 1071L Chemistry with Lab

BIOL 2443/BIOL 2441L Human Anatomy with Lab

BIOL 2213/BIOL 2211L Human Physiology with Lab

BIOL 2013/BIOL 2011L Microbiology with Lab

3. Admitted Honors Program students with 18 or more honors credit hours – 10 points
4. Successful completion of required\* nursing prerequisite courses (20 points for 75% completion of the required\* nursing prerequisite courses at UA; 10 points for 50% required\* nursing prerequisite courses at UA excluding electives) **OR** an additional degree completion: Bachelor's degree 25 points ; Master's degree 30 points.
  - a. \*Required nursing prerequisite courses include: English 6 credits, Mathematics/Statistics 6 credits, Sciences 16 credits, Fine Arts/ Humanities 6 credits, U.S. History 3 credits, Social Sciences 9 credits, Pre-Nursing 6 credits.
  - b. For students entering the University of Arkansas as freshmen, credits transferred in from high school dual enrollment or AP credit will be counted in the required nursing prerequisite courses at the UA.

Total points possible = 100.

1. Applications for admission must be submitted between November 1 and December 1 to be considered for fall semester admission and between April 1 and May 1 for spring semester admission. Late applications will not be accepted.
2. Students must meet the performance standards for the professional program of study.
3. Students transferring from another nursing program must provide a letter from the nursing program that they are eligible to return and are in good standing to be considered for admission.
4. Letter of Intent to be considered for admission must be received in the nursing school's office by date specified in admission letter.
5. Students who are conditionally accepted into the nursing program must maintain their GPA.
6. Multiple withdraws from courses will be evaluated on a case by case basis.

## Full Admission to the Generic B.S.N. Program

Full admission to the Eleanor Mann School of Nursing is contingent upon meeting all the conditional requirements and successfully meeting the following requirements:

1. All prerequisite coursework for a fall admission into the Professional Program of Study in Nursing must be completed by the end of the spring semester with the exception of the three pre-nursing courses (NURS 2012, NURS 2022, NURS 2032) which may be taken in the summer session prior to entering the program of study in nursing in the fall. All coursework for spring admission must be completed by the end of the fall semester prior to entering the Professional Program of Study in Nursing.
2. Maintain the individual GPA that was present at the time of conditional admission. Any decrease in GPA is subject to review by the nursing school's faculty.
3. Proof of the following:
  - a. CPR certification (American Heart Association Basic Certified Life Support and Automated Emergency Defibrillation CPR for Health Care Providers)
  - b. Completed Hepatitis B vaccine with dates of each injection or immune titer. Three (3) HBV injections are needed. Students are

required to have obtained HBV Injection 1 within two weeks of the beginning of the scheduled semester, followed by Injection 2 in one month, and Injection 3 within six months of Injection 1, in order to enter the clinical setting. A student who fails to obtain the complete series (3 injections), according to the Centers for Disease Control (CDC) established timeframe, will not be permitted to participate in patient care contact required in clinical experiences.

- c. Negative Tuberculin skin test or negative T-Spot test, if T-Spot is positive, a chest X-ray must be completed and updated yearly.
- d. Diphtheria-Tetanus (DT) required.
- e. Varicella required and (any other immunizations that may be required by clinical agencies)
- f. MMR required and (any other immunizations that may be required by clinical agencies)
- g. Health insurance: Students must submit proof of current coverage.
- h. Liability insurance is provided through an established student fee at the University of Arkansas.
- i. A criminal background check is required. Results will be reported to the college administration and school officials and any health-care facility in which the students are placed as part of the clinical education. An unsatisfactory background check result may lead to denial of admission to the nursing program. The criminal background check must be completed by prior to the first day of class.
- j. A negative drug screen is required within four weeks prior to entrance into the nursing program. Results are reported to the Eleanor Mann School of Nursing. A positive drug screen will lead to denial of admission to the nursing program. Student failure to submit to a drug screen, attempting to tamper with, contaminate, or switch a sample will result in the student not being admitted to the nursing program and will be referred to the Dean of Students in the Division of Student Affairs at the University of Arkansas.

Procedures for the criminal background check and the drug screen are available on the Eleanor Mann School of Nursing website (<http://nurs.uark.edu/6576.htm>).

## Requirements for Bachelor of Science in Nursing

**University Core (State Minimum Core)** 35

### English

ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa) <sup>1</sup>

ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa) <sup>1</sup>

### Mathematics

MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) <sup>1</sup>

### Sciences with Labs (8 hours) must include:

4 hours of CHEM including a lab (Must be CHEM 1073/ CHEM 1071L or higher) <sup>1</sup>

BIOL 2443 Human Anatomy (ACTS Equivalency = BIOL 2404 & BIOL 2441L Lecture) (Sp, Su, Fa)  
and Human Anatomy Laboratory (ACTS Equivalency = BIOL 2404 Lab) (Sp, Su, Fa) <sup>1,2</sup>

### Fine Arts (3 hours) <sup>1</sup>

### Humanities (3 hours) <sup>1</sup>

Select one of the following:

PHIL 2003 Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa) <sup>1</sup>

or PHIL 2103 Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)

or PHIL 2203 Logic (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)

or PHIL 3103 Ethics and the Professions (Sp, Su, Fa)

### History/Government (3 hours) <sup>1</sup>

### Social Sciences (9 hours) <sup>1</sup>

#### Additional General Studies

BIOL 2213 Human Physiology (ACTS Equivalency = BIOL 2414 Lecture) (Sp, Fa) 4  
& BIOL 2211L and Human Physiology Laboratory (ACTS Equivalency = BIOL 2414 Lab) (Sp, Fa) <sup>1</sup>

BIOL 2013 General Microbiology (ACTS Equivalency = BIOL 2004 Lecture) (Sp, Su, Fa) 4  
& BIOL 2011L and General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa) <sup>1,2</sup>

Select one of the following:

ESRM 2403 Statistics in Nursing (Sp, Su, Fa) <sup>1</sup> 3

or PSYC 2013 Introduction to Statistics for Psychologists (Sp, Su, Fa)

or STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)

or STAT 2023 Biostatistics (Sp)

NURS 2012 Nursing Informatics (Sp, Su, Fa) <sup>1</sup> 2

NURS 2022 Introduction to Professional Nursing Concepts (Sp, Su, Fa) <sup>1</sup> 2

NURS 2032 Therapeutic and Interprofessional Communication (Sp, Su, Fa) <sup>1</sup> 2

Elective hours (as needed) 8

### Professional Nursing Program

#### Role Development (Level I)

NURS 3313 Pharmacology in Nursing (Sp, Fa) 3

NURS 3314 Pathophysiology (Sp, Fa) 4

NURS 3321L Health Assessment (Sp, Fa) 1

NURS 3402 Nursing Concepts: Older Adult (Sp, Fa) 2

NURS 3422 Nursing Concepts: Foundations of Professional Practice (Sp, Fa) 2

NURS 3424 Professional Role Implementation I: Caregiver (Sp, Fa) 4

NURS 3634 Nursing Concepts: Adult Health and Illness I (Sp, Fa) 4

NURS 3644 Professional Role Implementation II: Caregiver (Sp, Fa) 4

NURS 3742 Nursing Concepts: Mental Health and Illness (Sp, Fa) 2

NURS 3752 Professional Role Implementation III: Caregiver (Sp, Fa) 2

NURS 3842 Research in Nursing (Sp, Fa) 2

#### Role Concentration (Level II)

NURS 4112 Nursing Concepts: Teaching and Health Promotion (Sp, Su, Fa) 2

NURS 4154 Nursing Concepts: Children and Family (Sp, Fa) 4

NURS 4164	Professional Role Implementation IV: Teacher (Sp, Fa)	4
NURS 4242	Leadership in Nursing (Sp, Fa)	2
NURS 4252	Professional Role Implementation V: Manager (Sp, Fa)	2
NURS 4262	Nursing Concepts: Adult Health and Illness II (Sp, Fa)	2
NURS 4442	Nursing Concepts: Critical Care (Sp, Fa)	2
NURS 4452	Professional Role Implementation VI: Role Synthesis (Sp, Fa)	2
NURS 4603	Nursing Concepts: Community (Sp, Su, Fa)	3
NURS 4613	Professional Role Implementation VII: Role Synthesis (Sp, Fa)	3
NURS 4712	Seminar in Nursing (Sp, Fa)	2
NURS 4722	Professional Role Implementation VIII: Role Synthesis (Sp, Fa)	2
Total Hours		120

<sup>1</sup> Denotes required nursing pre-requisite courses.

<sup>2</sup> BIOL 1543/BIOL 1541L is a prerequisite for BIOL 2013/BIOL 2011L and BIOL 2443/BIOL 2441L and may be used as part of the elective hours.

## Progression, Withdrawal, and Dismissal

- For progression in the nursing program, only grades of "C" or above will be accepted. Students who make less than a "C" may not progress into courses for which that course is a prerequisite until the course is repeated and the required minimum grade attained.
- If a student earns a "D", "F", or "W" in a course, the course may be repeated. The course must be passed on the second attempt. If a student earns a "D", "F", or "W" in a second course, the student will be dismissed from the program and may not be eligible for re-admission.
- If the student does not earn a grade of at least "C" upon repeating the nursing course, the student may not enroll in any nursing courses or continue in the School of Nursing or be eligible for re-admission.
- The one "D" policy includes only pre-nursing and nursing courses. Independent Study courses are NOT counted in the one "D" policy.
- Students in their J2, S1, or S2 level who do not pass the medication calculation examination with a 100 percent on the second attempt will be administratively withdrawn from all clinical courses and associated co-requisite didactic courses.
- For students enrolled in NURS 3424 Professional Role Implementation 1: Caregiver - Failure to pass the Dosage Calculation Exam on the third attempt in NURS 3424 Professional Role Implementation 1 course will result in a failing grade for the course and will count in the one "D" policy.

## Didactic/Professional Role Implementation Courses

- A student who needs to repeat a course must make petition to the Student Affairs Committee and are encouraged to do so as soon as they are aware of the need to repeat a course.
- Students will be readmitted on a space-available basis according to the following priority system:

### Priority Groups for Placement in Required Clinical Courses

- First Priority – Continuing full-time students in good academic standing.

- Second Priority – Continuing part-time students in good academic standing.
- Third Priority – Students repeating a course due to an academic or clinical failure or were administratively withdrawn with a "W" for failing the medication calculation test who were unable to repeat a course for one or more semesters.
- Fourth Priority – Students repeating a course due to an academic or clinical failure or were administratively withdrawn with a "W" for failing the medication calculation test who were in the preceding semester.

- Spaces in clinical courses are limited and tightly controlled by accreditation, the Arkansas State Board of Nursing, and clinical agency policies. Space in Didactic courses are limited to space available. A student re-enrolling in a Professional Role Implementation Course (whether due to illness, course failure, or other reasons) will not be assured a clinical placement space in subsequent courses.
- NOTE: Readmission will not be considered for any student dismissed from the School of Nursing who obtained a "D" or "F" in one (1) nursing course and was unable to make a "C" or better upon repeating this course. Also, a student dismissed from a Professional Role Implementation Course due to safety, ethical, or dishonesty issues will be administratively withdrawn from a course, and may be subject to administrative withdrawal from the School of Nursing following a full review. Readmission is not guaranteed to these students.
- Students should note that a flagrant or established pattern of disregard to Eleanor Mann School of Nursing policies can result in failure of the course and/or dismissal from the program without prior warnings (See Counseling Record Guidelines ([http://nurs.uark.edu/Counseling\\_Record\\_Guidelines.pdf](http://nurs.uark.edu/Counseling_Record_Guidelines.pdf))).

## Readmission Policies

Any student whose enrollment in the professional program of study has been interrupted may seek readmission following the steps below:

- Seek readmission into the University of Arkansas (if applicable).
- Complete Readmission Application to the School of Nursing during the application periods. (Readmission is limited by space availability).
- Readmission will not be considered for any student dismissed from the School of Nursing who obtained a "D" or "F" in one (1) nursing course and was unable to make a "C" or better upon repeating this course or who was dismissed from a Professional Role Implementation Course due to safety, ethical, or dishonesty issues. Exceptions to this policy will be considered by the Student Affairs Committee on an individual basis.

## Exit Policies

- Students must complete the requirements for the degree within five years of enrolling in the first upper-division nursing course. If the student does not complete the Professional Program of Study within the five-year limit, nursing credits must be reevaluated.
- All University of Arkansas requirements must be met.

NOTE: In addition to the program requirements, students must meet the university and college graduation requirements. This curriculum is subject to change to comply with national accreditation and the Arkansas State Board of Nursing Standards.

## R.N. to B.S.N. Admission Policies

1. Complete university admission requirements.
2. Complete R.N. to B.S.N. Online Program application with supporting R.N. licensure documentation and practice experience verification as indicated below.
  - a. R.N.s with 12-months or greater since nursing program completion:
    - i. Documentation from current and/or recent employer(s) where applicant is hired as an R.N. including institution or organization name, address, and supervisor contact information, area or unit of service, position title, and employment status (e.g., full-time, part-time, per diem). Applicants should include documentation of one of the following:
      1. Employer verification of 1,000-R.N. practice-hours completed within 12-24 months of beginning the program.
      2. Completion of a state board of nursing approved RN-refresher course within 12-24 months of beginning the program.
    - b. Nursing students enrolled in final semester of an accredited nursing program may be eligible for conditional program admission pending R.N. licensure. Supporting documents required with program application are listed below.
      - i. A letter of good standing from the director or dean of the respective nursing program from which the applicant is transferring from.
      - ii. In addition, students may enroll in a maximum of 6 credit hours of course work within the RN to BSN program of study and enrollment duration may not to exceed one academic semester or 6 months following Pre-RN Licensure program completion
3. Complete pre-admission advising with pre-nursing academic advisor to evaluate general education requirements.
4. Graduation from an NLNAC/ACEN-accredited nursing program.  
*\*Graduates from non NLN-AC/ACEN-accredited nursing programs will be evaluated for admission on an individual basis.*
5. Verification and maintenance of, unencumbered licensure to practice as a R.N. in Arkansas and/or any other state.
6. Credit for courses listed below will be held in escrow. The student will receive credit for these courses upon successful completion of the program.
 

NURS 2032	Therapeutic and Interprofessional Communication (Sp, Su, Fa)	2
NURS 3313	Pharmacology in Nursing (Sp, Fa)	3
NURS 3422 & NURS 3424	Nursing Concepts: Foundations of Professional Practice (Sp, Fa) and Professional Role Implementation I: Caregiver (Sp, Fa)	6
NURS 3634 & NURS 3644	Nursing Concepts: Adult Health and Illness I (Sp, Fa) and Professional Role Implementation II: Caregiver (Sp, Fa)	8
NURS 3742 & NURS 3752	Nursing Concepts: Mental Health and Illness (Sp, Fa) and Professional Role Implementation III: Caregiver (Sp, Fa)	4

NURS 4154 & NURS 4164	Nursing Concepts: Children and Family (Sp, Fa) and Professional Role Implementation IV: Teacher (Sp, Fa)	8
NURS 4262	Nursing Concepts: Adult Health and Illness II (Sp, Fa)	2
NURS 4442 & NURS 4452	Nursing Concepts: Critical Care (Sp, Fa) and Professional Role Implementation VI: Role Synthesis (Sp, Fa)	4
<b>Total Hours</b>		<b>37</b>

7. Professional nursing courses for R.N. to B.S.N. students are delivered online through Global Campus, School of Continuing Education and Academic Outreach.

## R.N. to B.S.N. Requirements

<b>University Core (State Minimum Core)</b>	<b>35</b>	
<b>English</b>		
Any (6 hours) Core English		
<b>Mathematics</b>		
Any (3 hours) Core Math		
<b>Sciences with Labs</b>		
Any (8 hours) Core Sciences		
<b>Fine Arts</b> <sup>1</sup>		
Any (3 hours) Core Fine Arts		
<b>Humanities</b>		
Any (3 hours) Core Humanities		
<b>History/Government</b> <sup>1</sup>		
Any (3 hours) Core American History or American Government		
<b>Social Sciences</b> <sup>1</sup>		
Any (9 hours) Core Social Sciences		
<b>Additional Program Requirements</b>		
Sciences (8 hours), in addition to state core sciences with labs.	8	
Statistics (3 hours)	3	
Elective hours (as needed)	8	
<b>R.N. to B.S.N. Professional Nursing Program</b>		
NURS 4003	Transition to Professional Nursing Practice (Sp, Fa)	3
NURS 4013	Informatics for the Professional Nurse (Sp, Fa)	3
NURS 4112	Nursing Concepts: Teaching and Health Promotion (Sp, Su, Fa)	2
NURS 4203	Leadership in Nursing (Sp, Su, Fa)	3
NURS 4323	Health Assessment and Clinical Reasoning for Professional Nurses (Sp)	3
NURS 4603	Nursing Concepts: Community (Sp, Su, Fa)	3
NURS 4701	Professional Nursing Synthesis (Sp, Su, Fa)	1
NURS 4722	Professional Role Implementation VIII: Role Synthesis (Sp, Fa)	2
NURS 4843	Research in Nursing (Sp, Fa) <sup>2</sup>	3
NURS 4503	Introduction to Health Care Policy (Su) <sup>2</sup>	3
NURS 4313	Pathophysiology in Nursing (Sp, Su) <sup>2</sup>	3
<b>Credits for Selected Nursing Courses Granted from Escrow</b>		<b>37</b>
NURS 2032	Therapeutic and Interprofessional Communication (Sp, Su, Fa)	
NURS 3313	Pharmacology in Nursing (Sp, Fa)	

NURS 3422	Nursing Concepts: Foundations of Professional Practice (Sp, Fa)
NURS 3424	Professional Role Implementation I: Caregiver (Sp, Fa)
NURS 3634	Nursing Concepts: Adult Health and Illness I (Sp, Fa)
NURS 3644	Professional Role Implementation II: Caregiver (Sp, Fa)
NURS 3742	Nursing Concepts: Mental Health and Illness (Sp, Fa)
NURS 3752	Professional Role Implementation III: Caregiver (Sp, Fa)
NURS 4154	Nursing Concepts: Children and Family (Sp, Fa)
NURS 4164	Professional Role Implementation IV: Teacher (Sp, Fa)
NURS 4262	Nursing Concepts: Adult Health and Illness II (Sp, Fa)
NURS 4442	Nursing Concepts: Critical Care (Sp, Fa)
NURS 4452	Professional Role Implementation VI: Role Synthesis (Sp, Fa)
Total Hours	120

<sup>1</sup> Denotes required nursing pre-requisite courses.

<sup>2</sup> Students in the R.N.-B.S.N. program who successfully complete the following three courses may use them for credit in the M.S.N. program at the University of Arkansas Graduate School once they are admitted into the graduate program — NURS 5053 Evidence-Based Practice and Innovation in Nursing (Sp), NURS 5063 Health Care Policy (Su), and NURS 5143 Advanced Pathophysiology (Sp).

NOTE: The minimum number of hours required to receive a baccalaureate degree at the University of Arkansas is 120 semester hours. The Nursing major is exempt from the eight-semester degree plan since the program is admissions-based. There is no guarantee that a student meeting the minimal GPA requirement will be admitted. Please refer to the College of Education and Health Profession's website (<http://nurs.uark.edu/prospective-nursing-students>) for specific information related to the admission criteria.

## Progression, Withdrawal, and Dismissal

- For progression in the nursing program, only grades of "C" or above will be accepted. Students who make less than a "C" may not progress into courses for which that course is a prerequisite until the course is repeated and the required minimum grade attained.
- If a student earns a "D", "F", or "W" in a course, the course may be repeated. The course must be passed on the second attempt. If a student earns a "D", "F", or "W" in a second course, the student will be dismissed from the program and may not be eligible for re-admission.
- If the student does not earn a grade of at least "C" upon repeating the nursing course, the student may not enroll in any nursing courses or continue in the School of Nursing or be eligible for re-admission.
- The one "D" policy includes only pre-nursing and nursing courses. Independent Study courses are NOT counted in the one "D" policy.
- Students in their J2, S1, or S2 level who do not pass the medication calculation examination with a 100 percent on the second attempt will be administratively withdrawn from all clinical courses and associated co-requisite didactic courses.
- For students enrolled in NURS 3424 Professional Role Implementation 1: Caregiver - Failure to pass the Dosage Calculation

Exam on the third attempt in NURS 3424 Professional Role Implementation 1 course will result in a failing grade for the course and will count in the one "D" policy.

## Didactic/Professional Role Implementation Courses

- A student who needs to repeat a course must make petition to the Student Affairs Committee and are encouraged to do so as soon as they are aware of the need to repeat a course.
- Students will be readmitted on a space-available basis according to the following priority system:
 

**Priority Groups for Placement in Required Clinical Courses**

  - First Priority – Continuing full-time students in good academic standing.
  - Second Priority – Continuing part-time students in good academic standing.
  - Third Priority – Students repeating a course due to an academic or clinical failure or were administratively withdrawn with a "W" for failing the medication calculation test who were unable to repeat a course for one or more semesters.
  - Fourth Priority – Students repeating a course due to an academic or clinical failure or were administratively withdrawn with a "W" for failing the medication calculation test who were in the preceding semester.
- Spaces in clinical courses are limited and tightly controlled by accreditation, the Arkansas State Board of Nursing, and clinical agency policies. Space in Didactic courses are limited to space available. A student re-enrolling in a Professional Role Implementation Course (whether due to illness, course failure, or other reasons) will not be assured a clinical placement space in subsequent courses.
- NOTE: Readmission will not be considered for any student dismissed from the School of Nursing who obtained a "D" or "F" in one (1) nursing course and was unable to make a "C" or better upon repeating this course. Also, a student dismissed from a Professional Role Implementation Course due to safety, ethical, or dishonesty issues will be administratively withdrawn from a course, and may be subject to administrative withdrawal from the School of Nursing following a full review. Readmission is not guaranteed to these students.
- Students should note that a flagrant or established pattern of disregard to Eleanor Mann School of Nursing policies can result in failure of the course and/or dismissal from the program without prior warnings (See Counseling Record Guidelines ([http://nurs.uark.edu/Counseling\\_Record\\_Guidelines.pdf](http://nurs.uark.edu/Counseling_Record_Guidelines.pdf))).

## Readmission Policies

Any student whose enrollment in the professional program of study has been interrupted may seek readmission following the steps below:

- Seek readmission into the University of Arkansas (if applicable).
- Complete Readmission Application to the School of Nursing during the application periods. (Readmission is limited by space availability).
- Readmission will not be considered for any student dismissed from the School of Nursing who obtained a "D" or "F" in one (1) nursing course and was unable to make a "C" or better upon repeating this course or who was dismissed from a Professional Role Implementation Course due to safety, ethical, or dishonesty

issues. Exceptions to this policy will be considered by the Student Affairs Committee on an individual basis.

## Exit Policies

1. Students must complete the requirements for the degree within five years of enrolling in the first upper-division nursing course. If the student does not complete the Professional Program of Study within the five-year limit, nursing credits must be reevaluated.
2. All University of Arkansas requirements must be met.

NOTE: In addition to the program requirements, students must meet the university and college graduation requirements. This curriculum is subject to change to comply with national accreditation and the Arkansas State Board of Nursing Standards.

## L.P.N./L.P.T.N. to B.S.N. admission policies

1. Complete university admission requirements.
2. Complete Eleanor Mann School of Nursing admission requirements
3. All prerequisite coursework for a fall admission into the Professional Program of Study in Nursing must be completed by the end of the spring semester with the exception of the three pre-nursing courses (NURS 2012, NURS 2022, NURS 2032), which may be taken in the summer session prior to entering the program of study in nursing in the fall. All coursework for spring admission must be completed by the end of the fall semester prior to entering the Professional Program of Study in Nursing in the spring.
4. Completion of an Arkansas State Board-approved L.P.N. or L.P.T.N. and an NLNAC accredited program.
5. Proof of, and maintenance of, an unencumbered license to practice as an L.P.N. or L.P.T.N. in the state of Arkansas or any other state.
6. Credit for courses listed below will be held in escrow. The student will receive credit for these courses upon successful completion of the program.

NURS 3313	Pharmacology in Nursing (Sp, Fa)	3
NURS 2032	Therapeutic and Interprofessional Communication (Sp, Su, Fa)	2
NURS 3422 & NURS 3424	Nursing Concepts: Foundations of Professional Practice (Sp, Fa) and Professional Role Implementation I: Caregiver (Sp, Fa)	6
Total Hours		11

7. L.P.N. students may receive credit for NURS 3634/NURS 3644 through validation examination.

## Requirements for Bachelor of Science in Nursing

**University Core (State Minimum Core)** 35

### English

ENGL 1013	Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa) <sup>1</sup>
ENGL 1023	Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa) <sup>1</sup>

### Mathematics

MATH 1203	College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) <sup>1</sup>
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**Sciences with Labs (8 hours) must include:**

4 hours of CHEM including a lab (Must be CHEM 1073/ CHEM 1071L or higher) <sup>1</sup>

BIOL 2443 Human Anatomy (ACTS Equivalency = BIOL 2404 & BIOL 2441L Lecture) (Sp, Su, Fa) and Human Anatomy Laboratory (ACTS Equivalency = BIOL 2404 Lab) (Sp, Su, Fa) <sup>1,2</sup>

### Fine Arts (3 hours) <sup>1</sup>

### Humanities (3 hours) <sup>1</sup>

Select one of the following:

PHIL 2003 Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa) <sup>1</sup>

or PHIL 2103 Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)

or PHIL 2203 Logic (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)

or PHIL 3103 Ethics and the Professions (Sp, Su, Fa)

### History/Government (3 hours) <sup>1</sup>

### Social Sciences (9 hours) <sup>1</sup>

### Additional General Studies

BIOL 2213 Human Physiology (ACTS Equivalency = BIOL 2414 Lecture) (Sp, Fa) 4  
& BIOL 2211L and Human Physiology Laboratory (ACTS Equivalency = BIOL 2414 Lab) (Sp, Fa) <sup>1</sup>

BIOL 2013 General Microbiology (ACTS Equivalency = BIOL 2004 Lecture) (Sp, Su, Fa) 4  
& BIOL 2011L and General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa) <sup>1,2</sup>

Select one of the following:

ESRM 2403 Statistics in Nursing (Sp, Su, Fa) <sup>1</sup> 3

or PSYC 2013 Introduction to Statistics for Psychologists (Sp, Su, Fa)

or STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)

or STAT 2023 Biostatistics (Sp)

NURS 2012 Nursing Informatics (Sp, Su, Fa) <sup>1</sup> 2

NURS 2022 Introduction to Professional Nursing Concepts (Sp, Su, Fa) <sup>1</sup> 2

NURS 2032 Therapeutic and Interprofessional Communication (Sp, Su, Fa) <sup>1</sup> 2

Elective hours (as needed) 8

### Professional Nursing Program

#### Role Development (Level I)

NURS 3313 Pharmacology in Nursing (Sp, Fa) 3

NURS 3314 Pathophysiology (Sp, Fa) 4

NURS 3321L Health Assessment (Sp, Fa) 1

NURS 3402 Nursing Concepts: Older Adult (Sp, Fa) 2

NURS 3422 Nursing Concepts: Foundations of Professional Practice (Sp, Fa) 2

NURS 3424 Professional Role Implementation I: Caregiver (Sp, Fa) 4

NURS 3634 Nursing Concepts: Adult Health and Illness I (Sp, Fa) 4

NURS 3644 Professional Role Implementation II: Caregiver (Sp, Fa) 4

NURS 3742 Nursing Concepts: Mental Health and Illness (Sp, Fa) 2

NURS 3752	Professional Role Implementation III: Caregiver (Sp, Fa)	2
NURS 3842	Research in Nursing (Sp, Fa)	2
<b>Role Concentration (Level II)</b>		
NURS 4112	Nursing Concepts: Teaching and Health Promotion (Sp, Su, Fa)	2
NURS 4154	Nursing Concepts: Children and Family (Sp, Fa)	4
NURS 4164	Professional Role Implementation IV: Teacher (Sp, Fa)	4
NURS 4242	Leadership in Nursing (Sp, Fa)	2
NURS 4252	Professional Role Implementation V: Manager (Sp, Fa)	2
NURS 4262	Nursing Concepts: Adult Health and Illness II (Sp, Fa)	2
NURS 4442	Nursing Concepts: Critical Care (Sp, Fa)	2
NURS 4452	Professional Role Implementation VI: Role Synthesis (Sp, Fa)	2
NURS 4603	Nursing Concepts: Community (Sp, Su, Fa)	3
NURS 4613	Professional Role Implementation VII: Role Synthesis (Sp, Fa)	3
NURS 4712	Seminar in Nursing (Sp, Fa)	2
NURS 4722	Professional Role Implementation VIII: Role Synthesis (Sp, Fa)	2
Total Hours		120

<sup>1</sup> Denotes required nursing pre-requisite courses.

<sup>2</sup> BIOL 1543/BIOL 1541L is a prerequisite for BIOL 2013/BIOL 2011L and BIOL 2443/BIOL 2441L and may be used as part of the elective hours.

## Progression, Withdrawal, and Dismissal

- For progression in the nursing program, only grades of "C" or above will be accepted. Students who make less than a "C" may not progress into courses for which that course is a prerequisite until the course is repeated and the required minimum grade attained.
- If a student earns a "D", "F", or "W" in a course, the course may be repeated. The course must be passed on the second attempt. If a student earns a "D", "F", or "W" in a second course, the student will be dismissed from the program and may not be eligible for re-admission.
- If the student does not earn a grade of at least "C" upon repeating the nursing course, the student may not enroll in any nursing courses or continue in the School of Nursing or be eligible for re-admission.
- The one "D" policy includes only pre-nursing and nursing courses. Independent Study courses are NOT counted in the one "D" policy.
- Students in their J2, S1, or S2 level who do not pass the medication calculation examination with a 100 percent on the second attempt will be administratively withdrawn from all clinical courses and associated co-requisite didactic courses.
- For students enrolled in NURS 3424 Professional Role Implementation 1: Caregiver - Failure to pass the Dosage Calculation Exam on the third attempt in NURS 3424 Professional Role Implementation 1 course will result in a failing grade for the course and will count in the one "D" policy.

## Didactic/Professional Role Implementation Courses

- A student who needs to repeat a course must make petition to the Student Affairs Committee and are encouraged to do so as soon as they are aware of the need to repeat a course.
- Students will be readmitted on a space-available basis according to the following priority system:
 

**Priority Groups for Placement in Required Clinical Courses**

  - First Priority – Continuing full-time students in good academic standing.
  - Second Priority – Continuing part-time students in good academic standing.
  - Third Priority – Students repeating a course due to an academic or clinical failure or were administratively withdrawn with a "W" for failing the medication calculation test who were unable to repeat a course for one or more semesters.
  - Fourth Priority – Students repeating a course due to an academic or clinical failure or were administratively withdrawn with a "W" for failing the medication calculation test who were in the preceding semester.
- Spaces in clinical courses are limited and tightly controlled by accreditation, the Arkansas State Board of Nursing, and clinical agency policies. Space in Didactic courses are limited to space available. A student re-enrolling in a Professional Role Implementation Course (whether due to illness, course failure, or other reasons) will not be assured a clinical placement space in subsequent courses.
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## Readmission Policies

Any student whose enrollment in the professional program of study has been interrupted may seek readmission following the steps below:

- Seek readmission into the University of Arkansas (if applicable).
- Complete Readmission Application to the School of Nursing during the application periods. (Readmission is limited by space availability).
- Readmission will not be considered for any student dismissed from the School of Nursing who obtained a "D" or "F" in one (1) nursing course and was unable to make a "C" or better upon repeating this course or who was dismissed from a Professional Role Implementation Course due to safety, ethical, or dishonesty issues. Exceptions to this policy will be considered by the Student Affairs Committee on an individual basis.

## Exit Policies

1. Students must complete the requirements for the degree within five years of enrolling in the first upper-division nursing course. If the student does not complete the Professional Program of Study within the five-year limit, nursing credits must be reevaluated.
2. All University of Arkansas requirements must be met.

NOTE: In addition to the program requirements, students must meet the university and college graduation requirements. This curriculum is subject to change to comply with national accreditation and the Arkansas State Board of Nursing Standards.

## Elementary Education (ELEL)

The Department of Curriculum and Instruction offers programs that prepare candidates for initial teacher licensure in Elementary Education (K-6).

Admission to the Elementary Licensure B.S.E. is competitive and consists of a three-stage process; simply meeting the minimum admission requirements will not guarantee admission. Admission will be determined by the Elementary Education faculty based on the seven items listed below in Stage II.

### Stage I: Pre-Elementary Education (PELED)

Complete all 63 hours of program pre-requisites (see below).

1. Obtain a GPA of 3.0 or better on UA coursework.
2. †Complete all program courses with a "C" or better.
3. Obtain a passing score on the Math, Reading, and Writing sections of the Praxis Core or ACT.
4. Complete a background check.

### Stage II: Admission to the Elementary Licensure B.S.E. (ELEL)

Admission to the Elementary Licensure Program is competitive and occurs after completion of all Pre-Elementary Education requirements and prior to the beginning of the fall semester of the junior year. Not all applicants who meet the minimum requirements will be admitted to the program. Applications to the Elementary Licensure (ELEL) program must be submitted by January 30. At this point, applicants must decide which program option they will follow: either CHED B.S.E. leading to M.A.T. option or ELEL B.S.E. licensure option. Both of these options are described on the application which can be found on the College of Education and Health Professions website (<http://ced.uark.edu/2360.htm>).

The application process includes:

1. Submission of the application to teacher education (see the Teacher Education Application Fee (p. 61)) through the university-wide Teacher Education Office.
2. Submission of Elementary Education application
3. Submission of transcripts for all coursework
4. Oral interview with Elementary Education faculty
5. Submission of Writing Sample
6. Submission of passing score on Math, Reading, and Writing sections of the Praxis Core Exam
7. Current background check

## Stage III: Requirements for Program Continuation and Student Teaching/ Internship

1. Maintain a cumulative GPA of 3.0 or better
2. Submission of Internship Application
3. Passing score on Praxis II, Elementary Education, Multiple Subjects
4. Successful teaching audition
5. Submission of letters of recommendation
6. Maintain a current background check
7. Earn a CPR card
8. Passing score on Praxis II, Principles of learning and Teaching for graduation.

This B.S.E. (4-year) degree includes approximately 9 months of student teaching/internship experience in public elementary schools. Senior-level students must therefore attend full-time.

Requirements for teacher licensure vary from state to state and may differ in teacher preparation programs. Please note that Arkansas requires all applicants to successfully complete a criminal background check. Arkansas Teacher Licensure requirements can be found at <http://arkansased.org/teachers/licensureinitial.html>.

All program courses must have a grade of "C" or better. No teaching methods courses may be taken as self-paced (correspondence) courses. A grade of "B" or better must be earned in both the fall and spring semesters of CIED 4173 Student Teaching (Sp, Fa).

## Elementary Education Requirements (ELEL)

### Pre-Elementary Education (PELED) requirements †

University Core (State Minimum Core)		35
Courses specifically required for ELEL program		
ENGL 1013	Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	
ENGL 1023	Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)	
MATH 1203	College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	
BIOL 1543 & BIOL 1541L	Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	
GEOS 1113 & GEOS 1111L	General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa) and General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)	
HIST 2003	History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)	
GEOS 1123	Human Geography (ACTS Equivalency = GEOG 1113) (Sp, Su, Fa) or ANTH 102: Introduction to Cultural Anthropology (ACTS Equivalency = ANTH 2013) (Sp, Su, Fa)	
HIST 2013	History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)	
HIST 1113	Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa)	



	or HIST 112:Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)
ARHS 1003	Basic Course in the Arts: Art Lecture (ACTS Equivalency = ARTA 1003) (Sp, Su, Fa)
COMM 1233	Media, Community and Citizenship (Sp, Fa)
	or WLIT 111:World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)
	or PHIL 200:Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa)
	or PHIL 210:Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)
	or PHIL 220:Logic (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa)
	or PHIL 310:Ethics and the Professions (Sp, Su, Fa)

**Additional PELED requirements** 31

CIED 1013	Introduction to Education (Sp, Fa)
COMM 1313	Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)
	or COMM 2323:Interpersonal Communication (Sp, Su, Fa)
ECON 3053	Economics for Elementary Teachers (Fa)
	or ECON 211:Basic Economics: Theory and Practice (Sp, Su, Fa)
HIST 3383	Arkansas and the Southwest (Sp, Fa) (or any 3hr Arkansas history course) <sup>1</sup>
MATH 2213	Survey of Mathematical Structures I (Sp, Su, Fa)
MATH 2223	Survey of Mathematical Structures II (Sp, Su, Fa)
MLIT 1003	Experiencing Music (ACTS Equivalency = MUSC 1003) (Sp, Su, Fa)
PHYS 1034	Physics for Elementary Education Majors (Sp)
	or ASTR 2003/2001L 1204 Lecture) (Sp, Su, Fa)
	or STEM 4104:Astronomy for Educators (Sp, Fa)
PLSC 2003	American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)
STAT 2303	Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa) (or any 3hr Statistics course)

**Elementary Education** 59

To be completed following admission to ELEL program	
CIED 3013	Development and Learning Theories in the K-6 Classroom (Sp, Fa) <sup>†</sup>
CIED 3023	Survey of Exceptionalities (Sp, Su, Fa) <sup>†</sup>
CIED 3053	The Emerging Adolescent (Sp, Fa) <sup>†</sup>
CIED 3103	Children and Adolescent Literature (Sp, Fa) <sup>†</sup>
CIED 3113	Emergent and Developmental Literacy (Sp, Fa) <sup>†</sup>
CIED 3123	Mathematics Methods in the K-6 Classroom (Sp, Fa) <sup>†</sup>
CIED 3133	Integrated Social Studies for the K-6 Classroom (Sp, Fa) <sup>†</sup>
CIED 3143	Teaching Science in the Elementary Grades (Sp, Fa) <sup>†</sup>
CIED 3262	Language Development for the Educator (Sp, Fa) <sup>†</sup>
CIED 4003	Elementary Seminar (Fa) <sup>†</sup>
CIED 4113	Integrated Communication Skills for the K-6 Classroom (Sp, Fa) <sup>†</sup>
CIED 4123	Literacy Assessment and Interventions in the Elementary Classroom (Fa) <sup>†</sup>

CIED 4133	Measurement and Research in the K-6 Classroom (Su) <sup>†</sup>
CIED 4143	Curriculum Design and Applications of Instructional Practice (Sp) <sup>†</sup>
CIED 4153	Classroom Management in the Elementary Grades (Sp, Fa) <sup>†</sup>
CIED 4173	Student Teaching (Sp, Fa) <sup>2,3</sup>
CIED 4173	Student Teaching (Sp, Fa) <sup>2,3</sup>
CIED 4363	Disciplinary Literacy in the K-6 Classroom (Sp, Fa) <sup>†</sup>
CIED 4423	Teaching English as a Second Language (Sp) <sup>†</sup>
STEM 4033	Introduction to STEM Education (Sp, Su) <sup>†</sup>
	or STEM 5023:Creativity and Innovation in STEM (Su, Fa)

**Total Hours** 125

- <sup>†</sup> Complete all requirements with grade 'C' or better unless otherwise noted.
- <sup>1</sup> Or any 3-hour Arkansas history course
- <sup>2</sup> Two semesters required for licensure; one taken Fall, other taken Spring
- <sup>3</sup> Must have a grade of "B" or better for graduation

**Elementary Education B.S.E. Eight-Semester Plan**

Because this program requires admission to progress, it does not qualify for the university's Eight-Semester Degree Program; however, students who qualify for admission to the program can finish a degree in four years by following the suggested order of classes below.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (or higher)		3
ARHS 1003 Basic Course in the Arts: Art Lecture (ACTS Equivalency = ARTA 1003) (Sp, Su, Fa)	3	
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	4	
HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)	3	
CIED 1013 Introduction to Education (Sp, Fa)		3
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)		3
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa) or COMM 2323 Interpersonal Communication (Sp, Su, Fa)		3
STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa) (or any 3hr Statistics course)		3
<b>Year Total:</b>	<b>16</b>	<b>15</b>

Second Year	Units	
	Fall	Spring
MATH 2213 Survey of Mathematical Structures I (Sp, Su, Fa)	3	
PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)	3	
COMM 1233 Media, Community and Citizenship (Sp, Fa) or PHIL 2003 Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa) or PHIL 2103 Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa) or PHIL 2203 Logic (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa) or PHIL 3103 Ethics and the Professions (Sp, Su, Fa) or WLIT 1113 World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa)	3	
PHYS 1034 Physics for Elementary Education Majors (Sp) or ASTR 2003 and ASTR 2001L or STEM 4104 Astronomy for Educators (Sp, Fa)	4	
MLIT 1003 Experiencing Music (ACTS Equivalency = MUSC 1003) (Sp, Su, Fa)	3	
HIST 1113 Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa) or HIST 1123 Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa)	3	
HIST 3383 Arkansas and the Southwest (Sp, Fa) (or any 3hr Arkansas History course)	3	
GEOS 1123 Human Geography (ACTS Equivalency = GEOG 1113) (Sp, Su, Fa) or ANTH 1023 Introduction to Cultural Anthropology (ACTS Equivalency = ANTH 2013) (Sp, Su, Fa)	3	
GEOS 1113 General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa) & GEOS 1111L General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)	4	
MATH 2223 Survey of Mathematical Structures II (Sp, Su, Fa)	3	
Year Total:	16	16

Third Year	Units	
	Fall	Spring
CIED 4003 Elementary Seminar (Fa)	3	
CIED 3143 Teaching Science in the Elementary Grades (Sp, Fa)	3	
CIED 3133 Integrated Social Studies for the K-6 Classroom (Sp, Fa)	3	
ECON 3053 Economics for Elementary Teachers (Fa) or ECON 2143 Basic Economics: Theory and Practice (Sp, Su, Fa)	3	

CIED 3262 Language Development for the Educator (Sp, Fa)	2	
CIED 3103 Children and Adolescent Literature (Sp, Fa)	3	
CIED 3123 Mathematics Methods in the K-6 Classroom (Sp, Fa)		3
CIED 3053 The Emerging Adolescent (Sp, Fa)		3
CIED 4153 Classroom Management in the Elementary Grades (Sp, Fa)		3
CIED 4113 Integrated Communication Skills for the K-6 Classroom (Sp, Fa)		3
CIED 3113 Emergent and Developmental Literacy (Sp, Fa)		3
Year Total:	17	15

Fourth Year	Units	
	Fall	Spring
CIED 4363 Disciplinary Literacy in the K-6 Classroom (Sp, Fa)	3	
CIED 4123 Literacy Assessment and Interventions in the Elementary Classroom (Fa)	3	
CIED 4173 Student Teaching (Sp, Fa)	3	
CIED 3023 Survey of Exceptionalities (Sp, Su, Fa)	3	
CIED 4323 Instructional Design for Teachers (Fa)	3	
CIED 4173 Student Teaching (Sp, Fa)		3
CIED 4133 Measurement and Research in the K-6 Classroom (Su)		3
STEM 4033 Introduction to STEM Education (Sp, Su) or STEM 5023 Creativity and Innovation in STEM (Su, Fa)		3
CIED 4143 Curriculum Design and Applications of Instructional Practice (Sp)		3
CIED 4423 Teaching English as a Second Language (Sp)		3
Year Total:	15	15

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Total Units in Sequence: 125

## Health, Human Performance and Recreation (HHPR)

### Faculty

**Jeff Bonacci**, Clinical Associate Professor  
**Paul C. Calleja**, Clinical Associate Professor  
**Rosalie DiBrezza**, University Professor  
**Stephen W. Dittmore**, Associate Professor  
**Craig Edmonston**, Instructor  
**R. J. Elbin**, Assistant Professor  
**Janet B. Forbess**, Instructor  
**Kaitlin Gallagher**, Assistant Professor  
**Matthew Stueck Ganio**, Associate Professor  
**Dean Richard Gorman**, Professor  
**Michelle Gray**, Associate Professor  
**Nicholas P. Greene**, Assistant Professor  
**Bart Hammig**, Associate Professor  
**Leah Jean Henry**, Associate Professor

**Erin Howie**, Assistant Professor  
**Sharon Lee Hunt**, Professor  
**Ches Jones**, Professor  
**Kristen N. Jozkowski**, Associate Professor  
**Stavros Anastassios Kavouras**, Associate Professor  
**Jack C. Kern**, Clinical Professor  
**Steve Langsner**, Associate Professor  
**Cathy D. Lirgg**, Associate Professor  
**Brendon P. McDermott**, Associate Professor  
**Merry Lynn Moiseichik**, Professor  
**Angela Smith-Nix**, Clinical Assistant Professor  
**Sarah Stokowski**, Assistant Professor  
**Amanda Lynn Sullivan**, Clinical Assistant Professor  
**Lesley Vandermark**, Clinical Assistant Professor  
**Heather D. Vinti**, Assistant Professor  
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Health, Human Performance and Recreation website (<http://hpr.uark.edu>)

The department offers programs leading to the B.S. degree with major emphasis in kinesiology (p. 459), public health (p. 464), or recreation and sport management (p. 466). The department also offers coursework in dance activity (p. 445).

## Human Resource and Workforce Development Education (HRWD) Faculty

**Jules K. Beck**, Clinical Assistant Professor  
**Bobbie T. Biggs**, Professor  
**Vicki Dieffenderfer**, Clinical Assistant Professor  
**Claretha Hughes**, Associate Professor  
**Mandel Samuels**, Clinical Instructor  
**Carsten M. Schmidtke**, Assistant Professor

Academic Adviser, Undergraduate HRWD  
 106 Graduate Education Building  
 479-575-4690  
 hrwd@uark.edu (pgerke@uark.edu)

The undergraduate Human Resource and Workforce Development Education (HRWD) program is specifically designed for adults who want to complete a bachelor's degree that opens doors to opportunity and personal growth. HRWD curriculum prepares individuals to apply integrated training, organizational development, and career planning and counseling skills to the design, management, and evaluation of programs to improve individual productivity, employability, job satisfaction, and organizational effectiveness. Undergraduates also obtain a solid

academic base to pursue a graduate degree. This major does not lead to traditional licensure for teachers in Arkansas.

All students start the program as pre-HRWD majors. To be admitted into the HRWD major, the students must meet the following criteria:

1. Have three or more years of full-time work experience or equivalent.
2. Complete all 35 hours of university core courses. For Social Sciences core requirement, students must complete PSYC 2003 and six credit hours of economics chosen from ECON 2013, ECON 2023, or ECON 2143. For Math core requirement, students must complete MATH 1203 or higher.
3. Complete 3 hours of pre-HRWD Math requirement chosen from MATH 2183, MATH 2053, MATH 1313 or STAT 2303.
4. Have a 2.5 or higher GPA.

## Human Resource and Workforce Development (HRWD) Major

<b>University Core Requirements</b>	<b>35</b>
PSYC 2003	General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)
MATH 1203	College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (or higher)
6 hours of Economics chosen from:	
ECON 2013	Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)
ECON 2023	Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)
ECON 2143	Basic Economics: Theory and Practice (Sp, Su, Fa)
<b>Pre-HRWD additional Math requirement <sup>1</sup></b>	<b>3</b>
MATH 2183	Mathematical Reasoning in a Quantitative World (Sp, Fa)
	or MATH 2053 Finite Mathematics (Sp, Su, Fa)
	or STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)
	or MATH 1313 Quantitative Reasoning (ACTS Equivalency = MATH 1113) (Sp, Fa)
<b>Electives</b>	<b>31</b>
Up to 19 credit hours of electives can include technical credit that can be obtained through experiential learning credits and/or faculty approved courses. <sup>2</sup>	
<b>HRWD Required Courses</b>	<b>51</b>
18 hour Career Development Pillar	
HRWD 3113	Foundations of Human Resource Development (Sp, Su, Fa)
HRWD 3123	Career Development (Su, Fa)
HRWD 4113	The Generational Dynamics in the Workplace (Sp, Fa)
HRWD 3133	Writing for Human Resource and Workforce Development Professionals (Sp)
HRWD 4123	Strategic Human Resource Development (Su, Fa)
HRWD 4133	International Human Resource Development and Cultural Differentiation (Su, Fa)
15 hour Organization Development Pillar	

HRWD 3213	Organization Development (Sp, Su)
HRWD 3223	Managing Human Resource Development Programs (Sp, Fa)
HRWD 4213	Workplace Diversity and Human Resource Development (Sp, Su)
HRWD 4223	Professional and Leadership Development (Su, Fa)
HRWD 4233	HRD Legal and Ethical Issues (Sp, Fa)
18 hour Training and Development Pillar	
HRWD 3313	Training and Development (Sp, Fa)
HRWD 3323	Designing and Developing Human Resource Development Programs (Sp, Su)
HRWD 3333	Communication in Human Resource and Workforce Development (Su, Fa)
HRWD 4313	Human Resource Development Program and Product Evaluation (Sp, Su)
HRWD 4323	Instructional Technology and Design (Su, Fa)
HRWD 4333	Human Resource Development Capstone (Sp, Fa)
<b>Total Hours</b>	<b>120</b>

<sup>1</sup> Must be completed prior to entry into the HRWD major.

- <sup>2</sup>
1. **Experiential Learning HRWD 450V**
    - a. Credits from HRWD faculty approved National Occupational Competency Testing Institute (NOCTI) assessments accepted and assessed by the HRWD faculty NOCTI coordinator.
    - b. American Council on Education (ACE) and Council on Adult and Experiential Learning (CAEL) credits as accepted by the University of Arkansas' undergraduate policy will also be accepted by the undergraduate HRWD program for Experiential Learning HRWD 450V credits.
    - c. 3 credit hours will be awarded for recognition from the American Society for Training and Development (ASTD) as a Certified Professional in Learning and Performance (CPLP).
    - d. Credits will be given for earning from Society for Human Resource Management (SHRM) Professional in Human Resources (PHR) and Senior Professional in Human Resources (SPHR) certification. 1 credit hour will be awarded for PHR certification. 3 credit hours for SPHR certification. If a student enters the undergraduate HRWD program with PHR certification and obtains SPHR certification while in the program, they will be given an additional 2 credit hours for a maximum of 3 credit hours.
    - e. A maximum of 3 credit hours of Continuing Education Unit (CEU) will be accepted. 15 hours of continuing education equals 1 CEU and equals 1 credit hour.
    - f. A maximum of 6 hours of ROTC credit will be granted for military service in accordance with the current University of Arkansas Policy.
  2. **Faculty Approved courses**
    - a. Sanctioned by HRWD faculty.
    - b. Related to one of the HRWD areas, including psychology, organizational behavior, adult education, occupational counseling, skill testing and evaluation, program design and evaluation, consulting practice, organizational development, training, management, development, customer service, or total quality management.

## Human Resource and Workforce Development Education Semester Plan

The nature of the Human Resource Development major excludes it from ACT 1014 eight-semester degree-completion program requirements. The HRWD degree is a 120 hour degree in accordance with ACT 747.

Presented below is a typical plan for completing this degree in four semesters; individual student plans may vary significantly.

If fewer credits than needed are earned through technical credits, completing additional appropriate coursework will require heavier course loads and/or additional semesters to graduate. The 19 hours of technical requirements can be completed at any time during the four semester program. Students are not required to complete courses during the summer, but courses may be offered. Students may be able to finish the program sooner if they enroll in summer courses.

### Earned prior to Fall Semester Year 1

University Core		35
Must specifically include:		
PSYC 2003	General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)	
MATH 1203	College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	
Pre-HRWD Core		21
To include:		
COMM 1313	Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	
ECON 2143	Basic Economics: Theory and Practice (Sp, Su, Fa)	
	or ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)	
	or ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)	
ENGL 3053	Technical and Report Writing (ACTS Equivalency = ENGL 2023) (Sp, Fa)	
MATH 2183	Mathematical Reasoning in a Quantitative World (Sp, Fa)	
6 hours of General Electives		
<b>Total Hours</b>		<b>56</b>

	Units	
	Fall	Spring
HRWD 3113 Foundations of Human Resource Development (Sp, Su, Fa)	3	
HRWD 3123 Career Development (Su, Fa)		3
HRWD 3213 Organization Development (Sp, Su)	3	
HRWD 3313 Training and Development (Sp, Fa)	3	
HRWD 3223 Managing Human Resource Development Programs (Sp, Fa)		3
HRWD 3323 Designing and Developing Human Resource Development Programs (Sp, Su)		3
HRWD 4113 The Generational Dynamics in the Workplace (Sp, Fa)		3
HRWD 4213 Workplace Diversity and Human Resource Development (Sp, Su)		3
<b>Year Total:</b>	<b>12</b>	<b>12</b>

Complete all planned NOCTI tests by March, if any, approved by HRWD adviser and enroll in technical requirement hours (if applicable)

Second Year	Units	
	Fall	Spring
HRWD 4123 Strategic Human Resource Development (Su, Fa)	3	
HRWD 4133 International Human Resource Development and Cultural Differentiation (Su, Fa)	3	
HRWD 4223 Professional and Leadership Development (Su, Fa)	3	
HRWD 4323 Instructional Technology and Design (Su, Fa)	3	
Complete all planned NOCTI tests, if any, approved by HRWD adviser and enroll in technical requirement hours (if applicable)		
HRWD 4233 HRD Legal and Ethical Issues (Sp, Fa)		3
HRWD 4313 Human Resource Development Program and Product Evaluation (Sp, Su)		3
HRWD 4333 Human Resource Development Capstone (Sp, Fa)		3
Complete all planned NOCTI tests, if any, approved by HRWD adviser and enroll in technical requirement hours (if applicable)		
Year Total:	12	9
Total Units in Sequence:		45

#### Combined Totals

Credits earned prior to Fall Semester Year 1	56
Credits in HRWD sequence	45
Posted HRWD Technical Requirements	19
<b>Total for Degree</b>	<b>120</b>

## Kinesiology (KINS)

### Faculty

**Jeff Bonacci**, Clinical Associate Professor  
**Paul C. Calleja**, Clinical Associate Professor  
**Rosalie DiBrezza**, University Professor  
**R. J. Elbin**, Assistant Professor  
**Janet B. Forbess**, Instructor  
**Kaitlin Gallagher**, Assistant Professor  
**Matthew Stueck Ganio**, Associate Professor  
**Dean Richard Gorman**, Professor  
**Michelle Gray**, Associate Professor  
**Nicholas P. Greene**, Assistant Professor  
**Erin Howie**, Assistant Professor  
**Sharon Lee Hunt**, Professor  
**Stavros Anastassios Kavouras**, Associate Professor  
**Jack C. Kern**, Clinical Professor  
**Cathy D. Lirgg**, Associate Professor  
**Brendon P. McDermott**, Associate Professor  
**Angela Smith-Nix**, Clinical Assistant Professor  
**Amanda Lynn Sullivan**, Clinical Assistant Professor  
**Lesley Vandermark**, Clinical Assistant Professor  
**Tyrone A. Washington**, Assistant Professor

The program in kinesiology is designed to prepare candidates for a variety of career options in the vast field of movement science. Depending upon the choice of concentrations, career opportunities may include

teaching physical education, coaching, analyzing and prescribing fitness programs, pre-athletic training, or preparation for professional programs in allied health. Graduates of this program should be well prepared to enter graduate programs of study in such areas as pedagogy or adapted physical education, exercise physiology, biomechanics, athletic training, sport management, medical school, physical therapy school, occupational school and other allied health professional schools.

The candidate for the Bachelor of Science degree with a major in kinesiology must select one of two concentrations:

- Exercise Science
- K-12 Teaching Physical Education, Wellness and Leisure

Undergraduate students in the Kinesiology (Exercise Science) program area are required to complete a minimum of 120 hours of coursework to graduate. Included within this requirement are courses in kinesiology, exercise science, and health science and a strong variety of interdisciplinary courses to include areas of nutrition, biological sciences, physics, chemistry, mathematics, English, communications, psychology, social sciences, fine arts, humanities, and statistics. Students are also provided with opportunities to connect classroom learning with actual research or hands-on experiences through courses such as Independent Study, Laboratory Practicums, and Internships. In addition to the required coursework, Exercise Science students have the opportunity to select related electives that will give the student the ability to create the best opportunity for their post-baccalaureate plans. Kinesiology has a high rate of students who qualify and are involved in the Honors College/COEHP College Honors curriculum.

Undergraduate students in the Kinesiology (K-12 Teaching Physical Education/Wellness & Leisure) program are also required to complete a minimum of 120 hours of coursework to graduate. The program of study works through the College of Education and Health Professions to ensure that these students are ready for application to Arkansas Teacher licensure if they are accepted and able to complete all of the steps of admissions and completion.

### Kinesiology K-12 Teaching Physical Education, Wellness and Leisure Concentration

A student preparing to teach in the public schools must select the K-12 teaching concentration in Kinesiology. Admission to the Kinesiology K-12 Teaching Physical Education, Wellness and Leisure Concentration requires the following:

- must be admitted to the teacher education program in kinesiology K-12 (see the Teacher Education Application Fee (p. 61)) after their sophomore year (45 hours of coursework).
- pass all three parts of *Core Academic Skills for Educator: Math, Reading, and Writing* according to current Arkansas State Department of Education requirements
- successfully complete an Arkansas State Police and Arkansas Child Maltreatment Registry background check (Background checks must be current, there is a fee for this process.)
- prior to taking the following pedagogical courses PHED 3003, PHED 3033, PHED 3043, students are required to have a cumulative grade point average of 2.5 or above

- prior to taking the following pedagogical courses PHED 4703, PHED 4743, PHED 432V, students are required to have a cumulative grade point average of 2.7 or above.

To be eligible to enroll in the Senior Block Internship semester (PHED 4023, PHED 407V, PHED 4733), students are required to:

- have a cumulative grade point average of 2.7 and maintain through degree completion
- successfully complete an Arkansas State Police and Arkansas Child Maltreatment Registry background check if not completed at Stage II (Background checks must be current, there is a fee for this process.)
- complete or present proof of registration for the Praxis II exams required by the Arkansas Department of Education licensure area of K-12 Physical Education, Wellness and Leisure

In order to complete the Kinesiology K-12 Teaching Physical Education, Wellness and Leisure students must maintain a 2.7 cumulative grade point average and complete all university requirements for graduation.

Students interested in obtaining an endorsement in coaching should contact the Coordinator of Teacher Education.

#### University Core (State Minimum Core) 35

PSYC 2003	General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)
BIOL 1543 & BIOL 1541L	Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa) (hours counted in the state minimum core)
BIOL 2443 & BIOL 2441L	Human Anatomy (ACTS Equivalency = BIOL 2404 Lecture) (Sp, Su, Fa) and Human Anatomy Laboratory (ACTS Equivalency = BIOL 2404 Lab) (Sp, Su, Fa) (hours counted in the state minimum core) <sup>1</sup>

#### Additional Requirements for Kinesiology Concentration I: K-12 Teaching Physical Education/Wellness and Leisure 45

PBHL 1103	Personal Health and Safety (Sp, Fa)
COMM 1313	Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)
KINS 3163	Exercise Physiology: Theory and Application (Fa) or EXSC 316 Exercise Physiology (Sp, Su, Fa) or EXSC 316 Honors Exercise Physiology (Sp, Su, Fa)
KINS 3223	Motor Development (Sp, Su, Fa)
EXSC 3353	Mechanics of Human Movement (Sp, Su, Fa) or EXSC 335 Honors Mechanics of Human Movement (Sp, Su, Fa)
PHED 1003	The Physical Education Profession: An Overview (Sp, Fa)
PHED 2023	Sport Skills (Sp, Fa)
PHED 2373	Elementary Physical Education (Sp, Su, Fa)
PHED 3203	Principles and Problems of Coaching (Su, Fa)
PHED 3413	Administration in Physical Education (Sp, Fa)
PHED 3573	The School Health Program (Sp, Fa)
PHED 3623	Sport Sociology (Sp, Su, Fa)
PHED 3903	Physical Education for Special Populations (Sp, Fa)
CIED 3033	Classroom Learning Theory (Sp, Su, Fa)
CNED 4003	Classroom Human Relations Skills (Sp, Fa)

or CNED 30: The Helping Relationship (Sp, Fa)

#### PHED Pedagogical Courses 16-17

Admission to the Pedagogical Courses - Meet Stage II Requirements

PHED 3003 Outdoor Education (Sp, Fa)

PHED 3033 Educational Rhythms and Gymnastics (Sp, Fa)

PHED 3043 Teaching Fitness (Sp, Fa)

#### Senior PHED Courses

Admission to Senior PHED Courses - Meet Stage III Requirements

PHED 432V Teaching Practicum (Sp, Fa) ((1 or 2 hours))

PHED 4743 Secondary Physical Education (Sp, Fa)

PHED 4703 Assessment in Physical Education (Sp, Fa)

#### Internship Semester 12

PHED 4023 Class Management (Sp, Fa)

PHED 407V Physical Education Teaching Internship (Sp, Fa) (6 hours)

PHED 4733 Senior Seminar (Sp, Fa)

#### General Electives 11-12

As needed for total hours based on waivers, exemptions and transfer inequalities

Total Hours 120

<sup>1</sup> Students may also count completion of the Anatomy and Physiology I course at another Arkansas institution for this requirement.

Note: All students seeking licensure in the state of Arkansas are subject to a criminal background check. Forms for this procedure may be obtained at the office of the Teacher Certification Officer, at the State Department, or any police station, including the campus police. These background checks take up to six months to process; therefore, students are advised to complete and submit the forms to the proper authorities six months in advance of actually applying for a license. Arkansas will not certify anyone who has been convicted of a felony. Although not required for the Kinesiology concentration in Physical Education, Wellness and Leisure, students seeking coaching endorsement will need to take PHED 4001, take the appropriate PRAXIS exams as designated by the Arkansas State Department of Education, and make a "C" or better in all courses required by the University of Arkansas for the Coaching Endorsement. Please see the College of Education and Health Professions PDF (<http://coe.hp.uark.edu/CoachingALP.pdf>) for these specific course numbers.

## Kinesiology B.S. K-12 Teaching Physical Education, Wellness & Leisure Concentration Eight-Semester Degree Program (KINSBS-PEWL)

The teacher education program for Kinesiology K-12 Teaching Physical Education/Wellness & Leisure does not qualify for the eight semester degree plan due to Praxis and cumulative GPA requirements for progression. However, the following 8-semester sample plan shows how a first-year student could select their courses.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
Social Science (except PSYC 2003) <sup>1</sup>		3

BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	4	
PBHL 1103 Personal Health and Safety (Sp, Fa)	3	
PHED 1003 The Physical Education Profession: An Overview (Sp, Fa)	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3	
U.S. History or American National Government <sup>1</sup>	3	
PHED 2023 Sport Skills (Sp, Fa) <sup>3</sup>	3	
Year Total:	16	15

Second Year	Units	
	Fall	Spring
KINS 3223 Motor Development (Sp, Su, Fa)	3	
PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)	3	
General Elective	3	
Fine Arts or Humanities <sup>1</sup>	3	
BIOL 2443 Human Anatomy (ACTS Equivalency = BIOL 2404 Lecture) (Sp, Su, Fa) & BIOL 2441L Human Anatomy Laboratory (ACTS Equivalency = BIOL 2404 Lab) (Sp, Su, Fa)	4	
Social Science (except PSYC 2003) <sup>1</sup>		3
Humanities or Fine Arts <sup>1</sup>		3
General Elective		6
PHED 2373 Elementary Physical Education (Sp, Su, Fa)		3
Year Total:	16	15

Third Year	Units	
	Fall	Spring
PHED 3003 Outdoor Education (Sp, Fa) <sup>4</sup>	3	
PHED 3033 Educational Rhythms and Gymnastics (Sp, Fa) <sup>4</sup>	3	
PHED 3203 Principles and Problems of Coaching (Su, Fa)	3	
PHED 3903 Physical Education for Special Populations (Sp, Fa) <sup>4</sup>	3	
KINS 3163 Exercise Physiology: Theory and Application (Fa) <sup>2</sup>	3	
PHED 3043 Teaching Fitness (Sp, Fa) <sup>4</sup>		3
PHED 3623 Sport Sociology (Sp, Su, Fa)		3
EXSC 3353 Mechanics of Human Movement (Sp, Su, Fa)		3
CIED 3033 Classroom Learning Theory (Sp, Su, Fa)		3
CNED 4003 Classroom Human Relations Skills (Sp, Fa) or CNED 3053 The Helping Relationship (Sp, Fa)		3

Year Total: 15 15

Fourth Year	Units	
	Fall	Spring
PHED 3413 Administration in Physical Education (Sp, Fa)	3	
PHED 3573 The School Health Program (Sp, Fa)	3	
PHED 432V Teaching Practicum (Sp, Fa) <sup>4</sup>	1	
General Elective	3	
PHED 4703 Assessment in Physical Education (Sp, Fa)	3	
PHED 4743 Secondary Physical Education (Sp, Fa)	3	
PHED 4023 Class Management (Sp, Fa)		3
PHED 407V Physical Education Teaching Internship (Sp, Fa)		6
PHED 4733 Senior Seminar (Sp, Fa)		3
Year Total:	16	12

Total Units in Sequence: 120

<sup>1</sup> Core areas must be completed as outlined in University Core (p. 81).

<sup>2</sup> EXSC 3153 has additional prerequisites not included in program of study.

<sup>3</sup> Must have grade 'C' or better to award degree credit.

<sup>4</sup> All three parts of the Praxis Core exam must be completed prior to enrollment.

## Kinesiology Concentration II – Exercise Science (KINSBS-EXSC)

University Core (State Minimum Core) 35

MATH 1203	College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)
BIOL 1543 & BIOL 1541L	Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)
CHEM 1103 & CHEM 1101L	University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) and University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa) or CHEM 12 Chemistry for Majors I (Fa) & CHEM 12 (and Chemistry for Majors I Laboratory (Fa)
PSYC 2003	General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)

Additional Required Sciences 20

BIOL 2443 & BIOL 2441L	Human Anatomy (ACTS Equivalency = BIOL 2404 Lecture) (Sp, Su, Fa) and Human Anatomy Laboratory (ACTS Equivalency = BIOL 2404 Lab) (Sp, Su, Fa)
BIOL 2213 & BIOL 2211L	Human Physiology (ACTS Equivalency = BIOL 2414 Lecture) (Sp, Fa) and Human Physiology Laboratory (ACTS Equivalency = BIOL 2414 Lab) (Sp, Fa)

CHEM 1123	University Chemistry II (ACTS Equivalency = CHEM 1121L Lecture) (Sp, Su, Fa) and University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)		
	or CHEM 1223 Chemistry for Majors II (Sp) & CHEM 1224 Chemistry for Majors II Laboratory (Sp)		
CHEM 2613	Organic Physiological Chemistry (ACTS Equivalency = CHEM 1224 Lecture) (Sp, Su, Fa) and Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su, Fa)		
	or CHEM 361 Organic Chemistry I (Su, Fa) & CHEM 362 Organic Chemistry I Laboratory (Su, Fa)		
PHYS 2013	College Physics I (ACTS Equivalency = PHYS 2011L Lecture) (Su, Fa) and College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab) (Su, Fa)		
<b>Additional Non-EXSC Requirements</b>		21-22	
MATH 1213	Plane Trigonometry (ACTS Equivalency = MATH 1203) (Sp, Su, Fa)		
	or MATH 1240 Calculus Mathematics (ACTS Equivalency = MATH 1305) (Sp, Su, Fa)		
	or MATH 2550 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)		
NUTR 1213	Fundamentals of Nutrition (Sp, Fa)		
COMM 1313	Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)		
	Three Hours Literature Elective		
STAT 2303	Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)		
	or PSYC 2010 Introduction to Statistics for Psychologists (Sp, Su, Fa)		
	or SOCI 3303 Social Data and Analysis (Sp, Fa)		
PBHL 2663	Terminology for the Health Professions (Sp)		
PSYC 3023	Abnormal Psychology (Sp, Fa)		
<b>Exercise Science Core Required</b>		24	
EXSC 2733	Introduction to Exercise Science (Sp, Fa)		
EXSC 3153	Exercise Physiology (Sp, Su, Fa) <sup>2</sup>		
	or EXSC 3155 Honors Exercise Physiology (Sp, Su, Fa)		
EXSC 3353	Mechanics of Human Movement (Sp, Su, Fa) <sup>2</sup>		
	or EXSC 3355 Honors Mechanics of Human Movement (Sp, Su, Fa)		
EXSC 3533	Laboratory Techniques (Sp, Su, Fa) <sup>2</sup>		
	or EXSC 3535 Honors Lab Techniques (Sp, Su, Fa)		
EXSC 4323	Exercise Prescription (Sp, Su, Fa)		
EXSC 4773	Performance and Drugs (Sp, Fa)		
EXSC 4833	Exercise Applications for Special Populations (Sp, Su, Fa)		
	or EXSC 4835 Honors Exercise Applications for Special Populations (Sp, Su, Fa)		
EXSC 4903	Internship in Exercise Science (Sp, Su, Fa) <sup>1</sup>		
	or KINS 405 Independent Study (Sp, Su, Fa)		
	or KINS 498 Kinesiology Honors Thesis/Project (Sp, Su, Fa)		
<b>Related Electives chosen from the following</b>		15	
EXSC 3423	Principles and Theories of Strength and Conditioning (Sp)		
EXSC 3723	Research Methods in Exercise Science (Sp)		
	or EXSC 3725 Honors Research Methods in Exercise Science (Sp)		
EXSC 4353	Advanced Mechanics of Human Movement (Irregular)		
	or EXSC 4355 Honors Advanced Mechanics of Human Movement (Irregular)		
EXSC 4643	Psychology of Sports Injury and Rehabilitation (Irregular)		
EXSC 4783	Sport and Exercise Psychology (Fa)		
EXSC 2393	Prevention and Care of Athletic Injuries (Irregular)		
KINS 3223	Motor Development (Sp, Su, Fa)		
KINS 3901H	Kinesiology Honors Thesis Tutorial (Sp, Su, Fa)		
PBHL 4603	Health Behavior: Theories and Application (Fa)		
PBHL 4613	Principles of Epidemiology (Fa)		
MATH 2053	Finite Mathematics (Sp, Su, Fa)		
	or MATH 2055 Finite Mathematics (Sp, Fa)		
ENGL 3053	Technical and Report Writing (ACTS Equivalency = ENGL 2023) (Sp, Fa)		
BIOL 2013	General Microbiology (ACTS Equivalency = BIOL & BIOL 2011L Lecture) (Sp, Su, Fa) and General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa)		
BIOL 2323	General Genetics (Sp, Fa)		
BIOL 2321L	General Genetics Laboratory (Sp, Fa)		
BIOL 2533	Cell Biology (Sp, Fa)		
BIOL 2531L	Cell Biology Laboratory (Sp, Fa)		
BIOL 4793	Introduction to Neurobiology (Sp)		
CHEM 3613	Organic Chemistry II (Sp, Su)		
	& CHEM 3611L Organic Chemistry II Laboratory (Sp, Su)		
CHEM 3813	Elements of Biochemistry (Sp, Su, Fa)		
PHYS 2033	College Physics II (ACTS Equivalency = PHYS & PHYS 2031L Lecture) (Sp, Su)		
	and College Physics II Laboratory (ACTS Equivalency = PHYS 2024 Lab) (Su)		
	or PHYS 2035 University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa)		
<b>General Electives</b>		5-4	
Total Hours			120
1	KINS 498VH option available only if completing Honors Program		
2	Course requires C or better for degree award		
<b>Kinesiology B.S., Exercise Science Concentration (KINSBS-EXSC) Eight-Semester Degree Program</b>			
Students wishing to follow the eight-semester degree plan in Kinesiology should see the Eight-Semester Degree Policy (p. 73) for university requirements of the program.			
<b>First Year</b>			<b>Units</b>
		<b>Fall</b>	<b>Spring</b>
ENGL 1013	Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	



CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) & CHEM 1101L University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa) or CHEM 1203 and CHEM 1201L	4	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3	
Fine Arts or Humanities <sup>1</sup>	3	
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa) <sup>1,2</sup>	4	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)	3	
MATH 1213 Plane Trigonometry (ACTS Equivalency = MATH 1203) (Sp, Su, Fa) or MATH 1284C Precalculus Mathematics (ACTS Equivalency = MATH 1305) (Sp, Su, Fa) or MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	3-4	
Fine Arts or Humanities <sup>1</sup>	3	
CHEM 1123 University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) & CHEM 1121L University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa) or CHEM 1223 and CHEM 1221L	4	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3	
Year Total:	17	16-17

Second Year		Units
	Fall	Spring
EXSC 2733 Introduction to Exercise Science (Sp, Fa)	3	
NUTR 1213 Fundamentals of Nutrition (Sp, Fa)	3	
HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa) or HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa) or PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)	3	
PBHL 2663 Terminology for the Health Professions (Sp)	3	
BIOL 2443 Human Anatomy (ACTS Equivalency = BIOL 2404 Lecture) (Sp, Su, Fa) & BIOL 2441L Human Anatomy Laboratory (ACTS Equivalency = BIOL 2404 Lab) (Sp, Su, Fa)	4	
PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)	3	
STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa) or PSYC 2013 Introduction to Statistics for Psychologists (Sp, Su, Fa) or SOCI 3303 Social Data and Analysis (Sp, Fa)	3	

BIOL 2213 Human Physiology (ACTS Equivalency = BIOL 2414 Lecture) (Sp, Fa) & BIOL 2211L Human Physiology Laboratory (ACTS Equivalency = BIOL 2414 Lab) (Sp, Fa)		4
General Elective		2
Social Science <sup>1</sup>		3
Year Total:	16	15

Third Year		Units
	Fall	Spring
PHYS 2013 College Physics I (ACTS Equivalency = PHYS 2014 Lecture) (Su, Fa) & PHYS 2011L College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab) (Su, Fa)	4	
EXSC 3153 Exercise Physiology (Sp, Su, Fa) or EXSC 3153H Honors Exercise Physiology (Sp, Su, Fa)	3	
EXSC 3353 Mechanics of Human Movement (Sp, Su, Fa) or EXSC 3353H Honors Mechanics of Human Movement (Sp, Su, Fa)	3	
Literature Elective	3	
Related Elective	3	
EXSC 3533 Laboratory Techniques (Sp, Su, Fa) <sup>EXSC 3533H</sup>		3
CHEM 2613 Organic Physiological Chemistry (ACTS Equivalency = CHEM 1224 Lecture) (Sp, Su, Fa) & CHEM 2611L Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su, Fa) or CHEM 3603 and CHEM 3601L		4
Related Elective		3
Related Elective		3
PSYC 3023 Abnormal Psychology (Sp, Fa)		3
Year Total:	16	16

Fourth Year		Units
	Fall	Spring
EXSC 4323 Exercise Prescription (Sp, Su, Fa)	3	
EXSC 4833 Exercise Applications for Special Populations (Sp, Su, Fa) or EXSC 4833H Honors Exercise Applications for Special Populations (Sp, Su, Fa)	3	
Social Science <sup>1</sup>	3	
Related Electives	3	
EXSC 4903 Internship in Exercise Science (Sp, Su, Fa) or KINS 405V Independent Study (Sp, Su, Fa) or KINS 405VH Honors Independent Study (Sp, Su, Fa) or KINS 498VH Kinesiology Honors Thesis/Project (Sp, Su, Fa)		3
EXSC 4773 Performance and Drugs (Sp, Fa)		3
General Elective		3-2
Related Elective		3

Year Total:	12	12-11
<hr/>		
Total Units in Sequence:		120

<sup>1</sup> Core areas must be completed as outlined in University Core (p. 81).

<sup>2</sup> BIOL 1543/BIOL 1541L is a prerequisite for BIOL 2443/BIOL 2441L.

<sup>3</sup> Use of KINS 498VH only for students completing the College of Education and Health Professions Honors Program.

## Public Health (PBHL)

### Faculty

**Bart Hammig**, Associate Professor

**Leah Jean Henry**, Associate Professor

**Ches Jones**, Professor

**Kristen N. Jozkowski**, Associate Professor

Public health is an exciting, diverse major that focuses on disease prevention and health promotion needs at the community level. Public health work is conducted by teams of clinicians, epidemiologists, behavioral scientists, environmental scientists, health education specialists, health inspectors, statisticians, and health administrators. Students receiving a B.S. in Public Health will be trained for entry-level public health positions found in government agencies, health corporations, and community non-profit organizations. Graduates are employed in a variety of settings, including: public health departments, non-governmental agencies, hospitals, health care management organizations, and health care accrediting agencies. The public health degree at the University of Arkansas is specifically focused on health promotion, health behavior and health education. In accordance, graduates are eligible for the Certified Health Education Specialist credential.

Public health is delivered in a variety of capacities to:

- Impact behavioral factors that are linked to chronic diseases, such as heart disease, diabetes, and cancer.
- Promote behaviors that positively impact outcomes related to issues such as physical activity, nutrition, and sexual health.
- Prevent and control the spread of infectious diseases
- Improve access to health care
- Affect issues related to the health of the environment
- Prevent violent and unintentional injuries
- Participate in global health endeavors
- Prevent drug use and abuse
- Assure the safety of our food supply
- Manage the delivery of health services

An undergraduate major in public health leads to the Bachelor of Science degree. The minimum requirements for all students in the college are listed under general studies.

### Requirements for a Major in Public Health

**University Minimum Core (State Minimum Core)** 35

#### Required General Core Studies

PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)

SOCI 2013 General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa)

BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL & BIOL 1541L 1014 Lecture) (Sp, Su, Fa)  
and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)

CHEM 1103 University Chemistry I (ACTS Equivalency = & CHEM 1101L CHEM 1414 Lecture) (Su, Fa)  
and University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)  
or CHEM 11: University Chemistry II (ACTS Equivalency = CHEM & CHEM 11: 1424 Lecture) (Sp, Su, Fa)

and University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)  
or CHEM 10 Fundamentals of Chemistry (ACTS Equivalency = & CHEM 10: CHEM 1214 Lecture) (Su, Fa)  
and Fundamentals of Chemistry Laboratory (ACTS Equivalency = CHEM 1214 Lab) (Fa)

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PBHL 1103 Personal Health and Safety (Sp, Fa) <sup>1</sup>

NUTR 1213 Fundamentals of Nutrition (Sp, Fa)

PBHL 1203 Prevention of Drug Abuse (Fa)

PBHL 1303 Introduction to Human Sexuality (Sp, Fa)

PBHL 2613 Foundations of Public Health (Sp) <sup>1</sup>

PBHL 2663 Terminology for the Health Professions (Sp)

PBHL 3202 Health Care and Public Health Policy (Sp) <sup>1</sup>

PBHL 3643 Public Health Program Planning and Evaluation (Fa)

PBHL 4043 Internship in Public Health (Sp, Fa)

ENSC 1003 Environmental Science (Sp, Fa)  
& ENSC 1001L and Environmental Science Laboratory (Sp, Fa)

PBHL 4603 Health Behavior: Theories and Application (Fa)

PBHL 4613 Principles of Epidemiology (Fa)

PBHL 4643 Multicultural Health (Sp, Su)

SCWK 4183 Social Work With Elders (Irregular)

### Sciences 12

BIOL 2013 General Microbiology (ACTS Equivalency = BIOL & BIOL 2011L 2004 Lecture) (Sp, Su, Fa)  
and General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa)

BIOL 2443 Human Anatomy (ACTS Equivalency = BIOL 2404 & BIOL 2441L Lecture) (Sp, Su, Fa)  
and Human Anatomy Laboratory (ACTS Equivalency = BIOL 2404 Lab) (Sp, Su, Fa)

BIOL 2213 Human Physiology (ACTS Equivalency = BIOL & BIOL 2211L 2414 Lecture) (Sp, Fa)  
and Human Physiology Laboratory (ACTS Equivalency = BIOL 2414 Lab) (Sp, Fa)

### Communications/Journalism 6

COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)

JOUR 1033 Fundamentals of Journalism (Sp, Su, Fa)  
or ENGL 30: Technical and Report Writing (ACTS Equivalency = ENGL 2023) (Sp, Fa)

### Psychology 3

PSYC 3093	Developmental Psychology (ACTS Equivalency = PSYC 2103) (Sp, Fa)	
<b>Statistics</b>		<b>3</b>
STAT 2303	Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)	
	or SOCI 330 Social Data and Analysis (Sp, Fa)	
	or PSYC 201 Introduction to Statistics for Psychologists (Sp, Su, Fa)	
	or ESRM 241 Statistics in Nursing (Sp, Su, Fa)	
<b>Electives: 19 hours total (9 of which must be at 3000 level or above)</b>		<b>19</b>
General electives (9 hours)		
Public Health related electives (10 hours) selected from BIOL, CHEM, COMM, EXSC, any Foreign Language, HESC, KINS, MATH, NURS, PHYS, PSYC, SCWK, SOCI, STAT, SUST		
<b>Total Hours</b>		<b>120</b>

<sup>1</sup> Course requires C or better for degree award.

## Public Health B.S. Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan for the Public Health major should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university core requirements.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3	
U.S. History/Government (Select from: HIST 2003, HIST 2013, PLSC 2003)	3	
SOCI 2013 General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa) (or Social Science Core, except PSYC 2003)	3	
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	4	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
Fine Arts or Humanities		3
PBHL 1103 Personal Health and Safety (Sp, Fa) <sup>1</sup>		3
PBHL 2613 Foundations of Public Health (Sp) <sup>1</sup>		3
NUTR 1213 Fundamentals of Nutrition (Sp, Fa)		3
<b>Year Total:</b>	<b>16</b>	<b>15</b>

Second Year	Units	
	Fall	Spring
PBHL 1203 Prevention of Drug Abuse (Fa) or PBHL 3643 Public Health Program Planning and Evaluation (Fa)	3	
JOUR 1033 Fundamentals of Journalism (Sp, Su, Fa) or ENGL 3053 Technical and Report Writing (ACTS Equivalency = ENGL 2023) (Sp, Fa)	3	

CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) & CHEM 1101L University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)		4
or CHEM 1123 and CHEM 1121L or CHEM 1073 and CHEM 1071L		
PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)		3
General Elective		3
PBHL 2663 Terminology for the Health Professions (Sp)		3
PBHL 1303 Introduction to Human Sexuality (Sp, Fa)		3
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)		3
General Electives		3
PBHL 3202 Health Care and Public Health Policy (Sp) <sup>1</sup>		2
<b>Year Total:</b>	<b>16</b>	<b>14</b>

Third Year	Units	
	Fall	Spring
PBHL 3643 Public Health Program Planning and Evaluation (Fa) or PBHL 1203 Prevention of Drug Abuse (Fa)	3	
PBHL 4613 Principles of Epidemiology (Fa)	3	
PSYC 3093 Developmental Psychology (ACTS Equivalency = PSYC 2103) (Sp, Fa)	3	
BIOL 2013 General Microbiology (ACTS Equivalency = BIOL 2004 Lecture) (Sp, Su, Fa) & BIOL 2011L General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa)	4	
Fine Arts or Humanities	3	
PBHL 4643 Multicultural Health (Sp, Su) or PBHL 4553 Environmental Health (Irregular)		3
BIOL 2443 Human Anatomy (ACTS Equivalency = BIOL 2404 Lecture) (Sp, Su, Fa) & BIOL 2441L Human Anatomy Laboratory (ACTS Equivalency = BIOL 2404 Lab) (Sp, Su, Fa)		4
STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)		3
Health-Related Elective		3
Social Science Core		3
<b>Year Total:</b>	<b>16</b>	<b>16</b>

Fourth Year	Units	
	Fall	Spring
BIOL 2213 Human Physiology (ACTS Equivalency = BIOL 2414 Lecture) (Sp, Fa) & BIOL 2211L Human Physiology Laboratory (ACTS Equivalency = BIOL 2414 Lab) (Sp, Fa)	4	
PBHL 4603 Health Behavior: Theories and Application (Fa)	3	
General Elective	3	
Health related elective	4	

PBHL 4043 Internship in Public Health (Sp, Fa)	3	
SCWK 4183 Social Work With Elders (Irregular)	3	
Health Related Elective	3	
ENSC 1003 Environmental Science (Sp, Fa)	4	
& ENSC 1001L Environmental Science Laboratory (Sp, Fa)		
<b>Year Total:</b>	<b>14</b>	<b>13</b>

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Total Units in Sequence:		120
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<sup>1</sup> Course requires C or better for degree award.

## Recreation and Sport Management (RESM)

### Faculty

**Stephen W. Dittmore**, Associate Professor  
**Craig Edmonston**, Instructor  
**Steve Langsner**, Associate Professor  
**Merry Lynn Moiseichik**, Professor  
**Sarah Stokowski**, Assistant Professor

The program in recreation and sport management is designed to prepare candidates for a variety of career opportunities in the field of recreation and sport management. Career opportunities may include park and recreation directors for a city, college and professional sports management, fitness center managers, state and national park managers, camp administrators, or work in YMCAs, Boys and Girls Clubs, or other youth-serving agencies. Graduates of this program should be well prepared to enter the recreation and sport workforce at an entry level position or pursue graduate studies in such areas as recreation management and sport management.

All students must complete the University Core requirements. In addition, all students must take the required general studies for the recreation and sport management core requirements listed. Recreation and sport management majors must obtain a 'C' or better in all courses beginning with the alpha code RESM. To enroll in RESM 440V, students must have a 2.50 GPA or better in RESM core and professional elective courses, have senior standing and have completed RESM 3873 and two RESM 2011 practicums.

There are several experiential requirements within the recreation and sport management core. Students are required to do three practicum experiences (RESM 2011). Each experience totals 45 hours. A more intense experience of an internship (RESM 440V) requires a minimum of 400 hours or work full time for 12-15 weeks in an agency with a qualified park, recreation, or sport management professional.

An undergraduate major in Recreation and Sport Management leads to the Bachelor of Science degree. The minimum requirements for all students in the college are listed under general studies.

### Curriculum for a Major in Recreation and Sport Management

<b>University Minimum Core (State Minimum Core)</b>	35
Required University Core for Major in Recreation and Sport Management:	
PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)	

PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)		
SOCI 2013 General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa)		
ECON 2143 Basic Economics: Theory and Practice (Sp, Su, Fa)		
<b>Recreation and Sport Management Major Requirements</b>		<b>54</b>
Three Hours Literature/History/World Civilization Elective		
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)		
RESM 1003 Professional Foundations of Leisure (Sp, Fa)		
RESM 2011 Recreation and Sport Practicum (Sp, Su, Fa) (three enrollments of one hour each)		
RESM 2063 Commercial Recreation and Sport (Sp, Fa)		
RESM 2093 Inclusive and Special Recreation and Sport (Sp)		
RESM 2813 Recreation and Sport Leadership (Sp, Fa)		
RESM 2853 Leisure and Society (Sp, Su, Fa)		
RESM 3833 Program Planning in Recreation and Sport (Sp)		
RESM 3843 Recreation and Sport Facilities (Sp)		
RESM 3873 Sport and Recreation Risk Management (Fa)		
RESM 3883 Marketing and Promotion in Recreation and Sport Management (Sp, Fa)		
RESM 4083 Research in Recreation and Sport (Sp, Fa)		
RESM 4003 Management in Recreation and Sport (Sp, Fa)		
RESM 4013 Contemporary Issues in Leisure and Sport (Sp)		
RESM 440V Internship (Sp, Su, Fa) (9 hours of RESM 440V required)		
<b>RESM Electives (select 3 hours from the following)</b>		<b>3</b>
RESM 1023 Recreation and Natural Resources (Sp, Su, Fa)		
RESM 3023 Sport Management Fundamentals (Fa)		
RESM 4023 Outdoor Adventure Leadership (Su)		
RESM 405V Independent Study in Recreation and Sport (Sp, Su, Fa)		
RESM 4273 The Intramural Sports Program (Odd Years, Fa)		
RESM 480V Workshop (Irregular)		
<b>HHPR Departmental Electives (EXSC, KINS, PBHL, PHED, RESM)</b>		<b>6</b>
<b>General Electives</b>		<b>4</b>
<b>RESM-related Electives of which 6 hours must be 3000/4000 level</b>		<b>18</b>
From ACCT, ANTH, COMM, FINN, GEOG, GEOL, HESC, HOSP, ISYS, JOUR, MGMT, MKTG, NUTR, SCWK, SUST, any WCOB prefix, CNED 3053, GEOS 4563		
<b>Total Hours</b>		<b>120</b>

The Recreation and Sport Management major is exempt from eight-semester degree plans, because students are recommended to register for RESM 440V Internship (Sp, Su, Fa) after the completion of their course work, because the recreation and sport management agencies have their busiest season in the summer. The following nine-semester plan, however, will guide students who wish to graduate in four years.

First Year	Units		
	Fall	Spring	Summer
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3		

MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa) (or higher)	3		
Fine Arts Core or Humanities Core	3		
PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)	3		
Literature/History/World Civilizations elective	3		
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)		3	
Science Core w/lab		4	
RESM 1003 Professional Foundations of Leisure (Sp, Fa)		3	
RESM 2853 Leisure and Society (Sp, Su, Fa)		3	
Year Total:	15	16	

Second Year	Units		
	Fall	Spring	Summer
SOCI 2013 General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa)	3		
ECON 2143 Basic Economics: Theory and Practice (Sp, Su, Fa)	3		
RESM 2813 Recreation and Sport Leadership (Sp, Fa)	3		
RESM 2063 Commercial Recreation and Sport (Sp, Fa)	3		
General elective or HHPR departmental elective **	3		
Science Core w/lab		4	
PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)		3	
Humanities Core or Fine Arts Core		3	
RESM 2093 Inclusive and Special Recreation and Sport (Sp)		3	
General elective		1	
Year Total:	15	14	

Third Year	Units		
	Fall	Spring	Summer
RESM elective *	3		
HHPR departmental elective or General elective **	3		
RESM 3883 Marketing and Promotion in Recreation and Sport Management (Sp, Fa)	3		
RESM Related elective ***	3		
HHPR departmental elective **		3	
RESM Related elective ***		3	
RESM 3833 Program Planning in Recreation and Sport (Sp)		3	

RESM 3843 Recreation and Sport Facilities (Sp)	3	
RESM 2011 Recreation and Sport Practicum (Sp, Su, Fa)	1	
Year Total:	12	13

Fourth Year	Units		
	Fall	Spring	Summer
RESM 3873 Sport and Recreation Risk Management (Fa)	3		
RESM 4003 Management in Recreation and Sport (Sp, Fa)	3		
RESM Related elective ***	3		
RESM 2011 Recreation and Sport Practicum (Sp, Su, Fa)	1		
RESM Related elective ***	3		
RESM 4083 Research in Recreation and Sport (Sp, Fa)			3
RESM 4013 Contemporary Issues in Leisure and Sport (Sp)			3
RESM Related elective ***			3
RESM Related elective ***			3
RESM 2011 Recreation and Sport Practicum (Sp, Su, Fa)			1
Year Total:	13	13	

Fifth Year	Units		
	Fall	Spring	Summer
RESM 440V Internship (Sp, Su, Fa)			9
Year Total:			9

Total Units in Sequence: 120

## Rehabilitation, Human Resources, and Communication Disorders (RHRC)

### Faculty

Larry W. Aslin, Instructor

Mitchell D. Barker, Lecturer

Jules K. Beck, Clinical Assistant Professor

Bonni A. Behrend, Lecturer

Bobbie T. Biggs, Professor

Paul Blisard, Clinical Assistant Professor

Andrew L. Bowers, Assistant Professor

Lisa Marie Bowers, Assistant Professor

Jenna Cambria, Assistant Professor

David Christian, Assistant Professor

Aletha Cook, Clinical Instructor

Vicki Dieffenderfer, Clinical Assistant Professor

Kimberly Frances Frazier, Associate Professor

G. David Gearhart, Professor

Margie Gilbertson, Clinical Instructor

Rachel E. Glade, Clinical Instructor

Kenda Shea Grover, Assistant Professor

Fran W. Hagstrom, Associate Professor

**James O. Hammons**, Professor, Deleted from HIED, RHRC in 2017  
**Michael Stephen Hevel**, Assistant Professor  
**Kristin Kay Higgins**, Associate Professor  
**Christine Holfield**, Assistant Professor  
**Claretha Hughes**, Associate Professor  
**Kit Kacirek**, Associate Professor  
**Erin O. Kern**, Assistant Professor  
**Lynn C. Koch**, Professor  
**Xinya Liang**, Assistant Professor  
**Wen-Juo Lo**, Associate Professor  
**Stephanie Lisanne Lusk**, Assistant Professor  
**Ketevan Mamiseishvili**, Associate Professor  
**Suzanne McCray**, Associate Professor  
**Sean W. Mulvenon**, Professor  
**Kim Perry**, Instructor  
**Kristi Leann Perryman**, Assistant Professor  
**Kevin Roessger**, Assistant Professor  
**Mandel Samuels**, Clinical Instructor  
**Carsten M. Schmidtke**, Assistant Professor  
**Leslie Jo Shelton**, Clinical Assistant Professor  
**Charles E. Stegman**, Professor  
**Mary Ann Toner**, Associate Professor  
**Ronna L. Turner**, Associate Professor  
**Brent Thomas Williams**, Associate Professor

Ketevan "Kate" Mamiseishvili  
 Department Head  
 100 Graduate Education Building  
 479-575-3781  
 kmamisei@uark.edu ( kmamisei@uark.edu)

The Department of Rehabilitation, Human Resources, and Communication Disorders offers two degree programs:

- B.S.E. in Human Resource and Workforce Development (p. 457)
- B.S.E. in Communication Disorders (p. 442)

At the graduate level, the department also offers an M.S. with an emphasis in speech-language pathology, M.S. and Ed.D. in higher education (<http://catalog.uark.edu/graduatecatalog/programsofstudy/highereducation>), M.S. and Ed.D. in human resource and workforce development (<http://catalog.uark.edu/graduatecatalog/programsofstudy/humanresourceandworkforcedevelopmenteducation>), M.S. and Ph.D. in counselor education (<http://catalog.uark.edu/graduatecatalog/programsofstudy/counseloreducation>), and Ph.D. in rehabilitation (<http://catalog.uark.edu/graduatecatalog/programsofstudy/rehabilitationrhab>).

## Special Education (SPED)

Peggy Schaefer-Whitby  
 Program Coordinator  
 ARKA 308  
 479-575-3302  
 pschae@uark.edu (bgartin@uark.edu)

The Department of Curriculum and Instruction offers programs that prepare candidates for initial teacher licensure in Special Education. Graduates of the B.S.E. in Special Education will prepare students to teach special education to students with diverse disabilities from kindergarten to 12th grade.

Students wishing to pursue a major in Special Education declare the Pre-Special Education (PSPED) preparation emphasis until formal admission to the major is approved by program faculty.

## General Requirements

1. Students must pass Praxis Core or ACT by meeting or exceeding the Arkansas Department of Education cut-off scores. This test should be taken after the student has completed 30 credit hours and upon completion of ENGL 1013, ENGL 1023, and MATH 1203. Enrollment for the spring semester, sophomore year is not permitted unless all three parts of Praxis Core are passed, and
2. All CIED courses must have a grade of "C" or higher. All SPED courses must have a "B" or higher prior to the student teaching semesters. No teaching methods courses may be taken by as self-paced (correspondence) courses.
3. Students must complete and successfully pass the criminal background check before beginning field experiences in the schools in the fall semester of the sophomore year and every year as needed.
4. Application to the Special Education Professional Course of Study is made through the Teacher Education Office (see the Teacher Education Application Fee (p. 61)) in the fall semester of the sophomore year after completing the first 30 hours on the program of study. A maximum number of special education candidates will be accepted each year. Thus, admission is competitive and meeting minimum requirements does not automatically result in admission to the program. Candidates will be ranked according to the following:
  - Praxis Core scores
  - Cumulative GPA
  - Criminal background check
  - Interview
5. Continuation to senior year Teaching Internship block is based on the following:
6. Praxis II: Special Education: Core Knowledge and Applications scores
7. Cumulative GPA
8. Criminal background check
6. Licensure requirements include the following.
  - Students must successfully complete the 2 semesters of Teaching Internship with a "B" or higher.
  - Students must have a cumulative GPA of 3.0 or higher.
  - Students must pass Praxis II: Special Education: Core Knowledge and Applications by meeting or exceeding the Arkansas Department of Education cut-off scores.

## Special Education Requirements (SPED)

### University Core (State Minimum Core)

35

ENGL 1013	Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)
ENGL 1023	Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)
MATH 1203	College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)
BIOL 1543 & BIOL 1541L	Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)

PHYS 1034	Physics for Elementary Education Majors (Sp)	
HIST 2003	History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)	
	or HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)	
PLSC 2003	American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)	
PSYC 2003	General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)	
HESC 2413	Family Relations (Sp, Fa)	
	3 hours Fine Arts Core	
	3 hours Humanities Core	
<b>ADE Mandated Course</b>		<b>3</b>
COMM 1313	Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	
<b>Curricular Content Courses</b>		
<b>Mathematics</b> <b>6</b>		
MATH 2213	Survey of Mathematical Structures I (Sp, Su, Fa)	
MATH 2223	Survey of Mathematical Structures II (Sp, Su, Fa)	
<b>Literacy</b> <b>8-9</b>		
CIED 3103	Children and Adolescent Literature (Sp, Fa)	
CIED 3113	Emergent and Developmental Literacy (Sp, Fa)	
CIED 3262	Language Development for the Educator (Sp, Fa)	
	or CDIS 225 Introduction to Communicative Disorders (Sp, Fa)	
<b>Professional Education Courses</b>		
<b>General Education</b> <b>9</b>		
CIED 3023	Survey of Exceptionalities (Sp, Su, Fa)	
CIED 3033	Classroom Learning Theory (Sp, Su, Fa)	
SPED 4423	Technology for the Inclusive Classroom (Fa)	
<b>Special Education</b> <b>24</b>		
SPED 4413	ABA and Classroom Management	
SPED 4433	Curriculum Development and Instructional Planning (Fa)	
SPED 4443	Career Development and Transition Planning for Students with Disabilities	
SPED 4453	Assessment of Students with Disabilities (Fa)	
SPED 4463	Teaching Students with Significant Disabilities (Sp)	
SPED 4473	Teaching Students with Disabilities in Math and Science (Sp)	
SPED 4483	Teaching Literacy Skills to Students with Disabilities (Sp)	
SPED 4493	Introduction to Students with Autism Spectrum Disorder (Sp)	
<b>Senior Internship Year</b> <b>28</b>		
SPED 4538	Special Education Internship - Kindergarten through 6th Grade (Fa)	
SPED 4543	Special Education Seminar - Kindergarten through 6th Grade (Fa)	
SPED 4553	Special Education Research - Kindergarten through 6th Grade (Fa)	
SPED 4568	Special Education Teaching Internship - 7th through 12th Grade (Sp)	
SPED 4573	Special Education Seminar - 7th through 12th Grade (Sp)	

SPED 4583 Special Education Research - 7th through 12th Grade (Sp)

<b>Electives</b>	<b>7-6</b>
Choose from CIED, STEM, or SPED courses	
<b>Total Hours</b>	<b>120</b>

## Special Education B.S.E. Eight-Semester Plan

Students wishing to follow the eight-semester degree plan in Education Studies should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program.

	Units	
	Fall	Spring
<b>First Year</b>		
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa)	3	
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	4	
HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa) or HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)	3	
Fine Arts Core elective	3	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
MATH 2213 Survey of Mathematical Structures I (Sp, Su, Fa)		3
PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa)		3
PHYS 1034 Physics for Elementary Education Majors (Sp)		4
HESC 2413 Family Relations (Sp, Fa)		3
<b>Year Total:</b>	<b>16</b>	<b>16</b>

	Units	
	Fall	Spring
<b>Second Year</b>		
Application must be made for admission to Professional Education Courses for beginning of spring semester		
MATH 2223 Survey of Mathematical Structures II (Sp, Su, Fa)	3	
PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)	3	
CIED 3033 Classroom Learning Theory (Sp, Su, Fa)	3	
CIED 3023 Survey of Exceptionalities (Sp, Su, Fa)	3	
Humanities Core elective	3	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)		3
CIED 3103 Children and Adolescent Literature (Sp, Fa)		3

CIED 3113 Emergent and Developmental Literacy (Sp, Fa)		3
CIED 3262 Language Development for the Educator (Sp, Fa) or CDIS 2253 Introduction to Communicative Disorders (Sp, Fa)		2-3
General Elective (if taking CIED 3262) CIED, STEM, or SPED elective	0-1	3
Year Total:	15	15

Third Year	Units	
	Fall	Spring
SPED 4413 ABA and Classroom Management (awaiting approval)	3	
SPED 4423 Technology for the Inclusive Classroom (Fa)	3	
SPED 4433 Curriculum Development and Instructional Planning (Fa)	3	
SPED 4443 Career Development and Transition Planning for Students with Disabilities (awaiting approval)	3	
SPED 4453 Assessment of Students with Disabilities (Fa)	3	
SPED 4463 Teaching Students with Significant Disabilities (Sp)		3
SPED 4473 Teaching Students with Disabilities in Math and Science (Sp)		3
SPED 4483 Teaching Literacy Skills to Students with Disabilities (Sp)		3
SPED 4493 Introduction to Students with Autism Spectrum Disorder (Sp) CIED, STEM, or SPED elective		3
Year Total:	15	15

Fourth Year	Units	
	Fall	Spring
SPED 4538 Special Education Internship - Kindergarten through 6th Grade (Fa)	8	
SPED 4543 Special Education Seminar - Kindergarten through 6th Grade (Fa)	3	
SPED 4553 Special Education Research - Kindergarten through 6th Grade (Fa)	3	
SPED 4568 Special Education Teaching Internship - 7th through 12th Grade (Sp)		8
SPED 4573 Special Education Seminar - 7th through 12th Grade (Sp)		3
SPED 4583 Special Education Research - 7th through 12th Grade (Sp)		3
Year Total:	14	14
Total Units in Sequence:		120

## College of Engineering Mission and Objectives

Ever since people first began to use tools and manipulate their surroundings, engineering has been a vital aspect of human life, and these days, engineering is as important as it ever was. Society turns to engineers to solve a range of social, economic and environmental problems, and an engineering degree can prepare students to work as managers and leaders, in the public or private spheres. Engineering education combines math and science with creativity, innovation and a passion to change the world.

The College of Engineering adds personal, social and economic value to the region, the state, the nation, and the world through engineering education and cutting-edge research in emerging technologies.

Recognizing that the University of Arkansas, Fayetteville, is a land-grant institution with consequent responsibilities in teaching, research, and service, and realizing that these are mutually dependent and necessary responsibilities, the College of Engineering adopts and seeks to fulfill the following statements of purpose.

**Undergraduate Education** — Offer a high-quality and fully accredited course of instruction involving classroom, laboratory, and extracurricular activities that will result in professionals qualified to begin careers in the field of engineering and prepared to assume responsible places of leadership in society.

**Graduate Education and Research** — Offer state-of-the-art coursework and research experiences that result in all graduates being capable of independent analysis and design, and all Ph.D. graduates capable of extending the state-of-the-art in their areas of expertise.

**Continuing Education** — Provide local, regional, national, and international seminars, symposia, short courses, and credit courses to engineers and others in the technical community to help them further their formal education and keep abreast of new developments in technology.

**Technology Development and Job Creation** — Assist actively and vigorously in the growth and development of the state of Arkansas and the nation by performing research and developing innovative new technology, by updating the existing technology within industrial circles, by providing educational support services, and by attracting and creating new industry.

The College of Engineering focuses on research, teaching and outreach in the following areas:

- Health care and healthcare systems
- Cyber and Homeland Security
- Big Data and Data Analytics
- Sustainability and the built environment
- Electric power systems and advanced power electronics
- Electronics manufacturing
- Environmental and ecosystems analysis
- Mixed signal electric systems
- Materials and manufacturing
- Nanotechnologies
- Transportation, logistics and infrastructure



More information about the College of Engineering can be found at the College of Engineering website (<http://www.engr.uark.edu>).

## College of Engineering Strategic Plan “Preparing You for Your Tomorrow”

For more than 100 years, the College of Engineering has successfully fulfilled its primary mission: to provide an excellent engineering education to undergraduate and graduate students at the University of Arkansas.

The College of Engineering faculty, staff, alumni and students decided to accept the challenge to become one of the best. Specifically, the college's collective goal is:

*To become and be recognized as one of the top tier graduate and undergraduate engineering programs in the U.S.*

The College's strategic plan encompasses seven main goals. By successfully accomplishing these objectives, the College of Engineering will contribute to the University of Arkansas becoming a nationally competitive, student-centered research institution serving Arkansas and the world, effectively fulfilling its purpose.

### Strategic Goals

1. Provide a student-centered educational experience that attracts diverse, high-quality students, helps them to realize their potential, inspires them to pursue excellence at all degree levels and grooms them to become leaders in their profession.
2. Create a supportive research environment that enhances and recognizes scholarship while stimulating entrepreneurship and economic development within Arkansas, the nation and world.
3. Recruit, mentor and retain high-quality and diverse faculty members who value and promote world-class scholarship.
4. Attract, develop and retain well-qualified, diverse and skilled staff members who are equipped to support the growth and potential of the College of Engineering.
5. Implement service and outreach to enhance the impact of the College of Engineering both within and outside the university through service and outreach.
6. Become a catalyst for economic development to achieve the long-term economic goals of Arkansas through entrepreneurship, research and collaboration with industry and government.
7. Cultivate corporate and alumni relationships to improve educational opportunities and assist in providing a high quality educational infrastructure.

## College Admission Requirements Undergraduate Students

Freshmen admitted to the University of Arkansas, Fayetteville, are eligible to enroll in the College of Engineering. The freshman curriculum stresses a basic foundation in mathematics, physics, and chemistry, which will be required in later years. The sophomore, junior, and senior years are spent in a strong concentration on the student's chosen field, with emphasis on industrial applications of classroom and laboratory work. By the selection of electives, a student can concentrate in depth in a particular subject, have the flexibility to study several subjects, and minor in an area of interest. Provisions are made for electives in the humanities and social sciences as a means of providing a well-rounded education.

## International Students

Before being admitted all computer engineering applicants must submit a Test of Spoken English (TSE) score of at least 5.0, or a 7.0 on the spoken section of the IELTS, and an ACT score of 25 (or SAT score of 1140(R)) or above, to be eligible for admission.

## Transfer Students

In addition to the university policies controlling the granting of credit for course work taken at other institutions, the College of Engineering specifies that advanced (3000- and 4000-level at the University of Arkansas) engineering courses may not normally be transferred from institutions that do not have engineering programs accredited by the Engineering Accreditation Commission or the Computing Accreditation Commission of ABET.

## College Scholarships

The College of Engineering awards numerous scholarships, and most are based primarily on academic performance. However, scholarships may also be awarded on the basis of financial need and diversity. Scholarships are available from both the college and its individual departments. College scholarships are available to any engineering student, and departmental scholarships are meant for students enrolled in a particular discipline of engineering. College and departmental scholarships are not available for entering freshmen. Students must be admitted to the University of Arkansas and enrolled in the College of Engineering to qualify and receive either a college or departmental scholarship. The college has a one-step application process that allows a student to be considered for all college-level and departmental scholarships.

For more information concerning scholarship and diversity opportunities, contact the Engineering Student Affairs Office at 575-3051 or e-mail [engrdean@uark.edu](mailto:engrdean@uark.edu).

## Facilities and Resources Instructional, Computer, and Laboratory Facilities

Undergraduate instruction in engineering takes place in Bell Engineering Center, John H. White Jr. Engineering Hall, J.B. Hunt Center for Academic Excellence, and the Mechanical Engineering building. These facilities contain state-of-the-art classrooms and instructional equipment. Undergraduate laboratories are located both on the main campus as well as at the Engineering Research Center. Laboratories offer students hands-on experience relating to the subject matter addressed in the classroom.

The College of Engineering utilizes a wide variety of computing equipment to assist in engineering education. Students have easy access to computers through general computer laboratories or computer facilities located in specialized laboratories within the college. The computers are networked so that all the computing power of the university, including the mainframe computers, can be accessed from the PCs or workstations provided for engineering students. Owning a personal computer is not required; however, it is beneficial.

## Laboratory Fee

In order to maintain the college's state-of-the-art instructional and computer laboratories, each student enrolled in an engineering course is assessed a laboratory fee for that term. This fee is used only to purchase and maintain equipment and staff the engineering laboratories and classrooms to assist students.

## Library

The books and references used by engineering students and faculty are housed principally in the University of Arkansas Mullins Library. This collection is the most useful and comprehensive engineering library in the state. Many publications pertinent to the engineering profession are being added continuously. Mullins Library is the depository for water resources papers, geological survey materials, and NASA publications, as well as other governmental and industrial series.

## Engineering Research Center

The 178,000-square-foot Engineering Research Center is located approximately two miles south of the main campus. The center provides the facilities and support services for a wide variety of research activities. It houses the Engineering Experiment Station through which the research of individual departments in the college is administered. Centers and laboratories located at the Engineering Research Center include GENESIS, the High Density Electronics Center, the Center for Training Transportation Professionals, and the Chemical Hazards Research Center.

## Distance Learning

A Master of Science in Engineering (M.S.E.) degree is available for students who wish to take a broad range of engineering courses. See the Graduate School Catalog for details.

Professional development and continuing education credits can be earned through the College of Engineering's Center for Distance Learning. These courses provide ongoing training on technical and engineering topics for professional engineers, land surveyors, and others in the technical and engineering professions.

The Master of Science in Operations Management (MSOM) degree program at the University of Arkansas offers students the philosophy, concepts, and techniques needed to manage available resources to achieve maximum efficiency and effectiveness in meeting operational goals. It provides the tools needed for successful management in industrial and/or military settings. Geared toward the working student, classes meet in the evenings in five 8-week terms per year. The program is offered at military installations at Little Rock Air Force Base (Jacksonville, Ark.), Naval Support Activity Mid-South (Millington, Tenn.), Hurlburt Field, Fla., and at in-state sites at Fayetteville, Bentonville, Camden, and Blytheville. Students in remote locations may also earn the MSOM degree by taking video courses. This is a non-engineering degree that is open to students from all undergraduate backgrounds. See the Graduate School catalog for details.

## Student Organizations

The following are honor societies, social organizations and professional societies to which engineering students at the University of Arkansas may aspire:

- Alpha Chi Sigma (a professional chemistry fraternity)
- Alpha Epsilon (Biological/Agricultural Engineering)
- Alpha Pi Mu (Industrial Engineering)
- Chi Epsilon (Civil Engineering)
- Eta Kappa Nu (Electrical Engineering)
- Omega Chi Epsilon (Chemical Engineering)
- Order of the Engineer (professional engineering society)
- Phi Eta Sigma (freshmen)
- Phi Kappa Phi (juniors and seniors)

- Phi Sigma Rho, (professional engineering sorority)
- Pi Mu Epsilon (Mathematics)
- Pi Tau Sigma (Mechanical Engineering)
- Tau Beta Pi (Engineering)
- Theta Tau, (A professional engineering fraternity, it maintains a chapter house on the campus and is active in university and college affairs.)

Several national engineering societies are listed below that maintain student branches in the College of Engineering, each under the auspices of a professor in a related department.

- American Chemical Society
- American Concrete Institute
- American Ecological Engineering Society
- American Indian Science and Engineering Society
- American Institute of Aeronautics and Astronautics
- American Institute of Chemical Engineers
- American Nuclear Society
- Amateur Radio Club of the University of Arkansas
- American Society of Agricultural and Biological Engineers
- American Society of Civil Engineers
- American Society of Heating, Refrigeration, and Air-Conditioning
- American Society of Mechanical Engineers
- Association for Computing Machinery
- Biomedical Engineering Society
- Engineers Without Borders
- Institute of Biological Engineering
- Institute of Electrical and Electronics Engineers
- Institute of Electrical and Electronics Engineers, Components, Packaging, and Manufacturing Technology Society
- Institute of Electrical and Electronics Engineers, Power Electronics Society
- Institute of Industrial Engineers
- Institute of Transportation Engineers
- International Microelectronics and Packaging Society
- Materials Research Society
- National Society of Professional Engineers
- National Society of Black Engineers
- Society of Automotive Engineers Assoc. for Computing Machinery
- Society of Hispanic Professional Engineers
- Society of Manufacturing Engineers
- Society of Women Engineers
- Transportation and Logistics Association

## College Academic Regulations

Students are expected to keep themselves informed concerning current regulations, policies, and program requirements in their fields of study and must meet all requirements of the degree programs in which they are enrolled. Courses that are modified or added to a curriculum and that are incorporated into the curriculum at a level beyond that at which a student is enrolled may become graduation requirements for that student. Courses that are incorporated into the curriculum at a level lower than the one at which the student is enrolled are not required for that student.

## Eligibility

Only students enrolled in the College of Engineering or enrolled in programs in which curricula require engineering courses will be allowed to take engineering courses. Exceptions to this requirement must be approved by the dean of engineering. This does not apply to graduate students.

## Code of Ethics

Students in the College of Engineering are obligated to comply with pertinent provisions of the Code of Ethics applicable to professional practice following graduation. The Code requires “honesty, impartiality, fairness, and equity,” and “adherence to the highest principles of ethical conduct.” Most particularly, it states that engineers shall:

1. Be objective and truthful in professional reports, statements, or testimony;
2. Not falsify or permit misrepresentation of their academic or professional qualifications;
3. Give credit for engineering work to those whom credit is due;
4. Not compete unfairly with other engineers by attempting to obtain employment or advancement by improper or questionable methods;
5. Avoid any act tending to promote their own interest at the expense of the dignity and integrity of the profession.

## Degree Requirements

The basic requirement for a Bachelor of Science degree in engineering is 124-128 semester hours of academic work, depending on the career field chosen. Students coming from high school with adequate preparation will be able to satisfy this requirement in eight semesters; however, some students require preparatory courses, and others choose to enroll in slightly lighter loads and graduate in nine or ten semesters. Students enrolled in ROTC require an additional 19 semester hours to meet all graduation requirements and graduate in ten semesters (five years).

Engineering is a rapidly changing profession, and the departmental curricula are updated continuously to keep pace with these changes. Students entering under this catalog will be required to comply with such curriculum changes to earn their degree. However, the total number of semester hours required for the degree may not be increased, and all work completed in accordance with this catalog prior to the curriculum change will be applied toward the student's degree requirements. Former students of the college must meet the curriculum requirements in effect at the time of their readmission.

## Graduation Requirements

In addition to university requirements for enrollment and graduation, the College of Engineering has these additional requirements. Individual departments may have additional requirements.

1. **Grade-Point Average** – A candidate for a degree from the College of Engineering must have earned a grade-point average of no less than 2.00 on all courses in the student's major area of study.
2. **Courses That Do Not Count Toward a Degree** – The following courses, which may be required, do not count toward degree credit for Bachelor of Science degrees in the College of Engineering: MATH 1203, MATH 1213, and MATH 1284C.
3. **“D” Rule** – No student will be allowed to graduate if the student has “D” grades in more than 8 hours presented to meet the requirements for a degree.

4. **Transfer of Courses** – Advanced (3000- and 4000-level at the University of Arkansas) engineering courses may not normally be transferred from institutions that do not have programs accredited by the Engineering Accreditation Commission.
5. **Resident Requirements** – A candidate must earn a minimum of 20 credit hours at the 3000 level and above in the College of Engineering from the University of Arkansas.
6. **University Core (State Minimum Core)** – The University of Arkansas has adopted a University Core of 35 semester-credit-hours of general education courses that are required of all baccalaureate degree candidates. This is in compliance with Arkansas Act 98 of 1989 and the subsequent action of the Arkansas State Board of Higher Education. Beginning in the fall semester of 1991, all state institutions of higher education in Arkansas have a 35-hour minimum core requirement with specified hours in each of six academic areas. The university and the College of Engineering have identified those courses that meet the minimum requirement, and they are listed in the chart below.

## Specific University Core Requirements for Engineering Students

<b>English</b>		
ENGL 1013	Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3
ENGL 1023	Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)	3
<b>Mathematics</b>		
MATH 2554	Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	4
<b>Science</b>		
PHYS 2054	University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa)	4
Select one of the following:		4
PHYS 2074	University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa)	
CHEM 1123 & CHEM 1121L	University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) and University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)	
BIOL 1543 & BIOL 1541L	Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	
<b>U.S. History or Government</b>		
Select one of the following:		3
HIST 2003	History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)	
HIST 2013	History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)	
PLSC 2003	American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)	
<b>Fine Arts, Humanities and Social Sciences</b>		
Fine Arts *		3
Humanities *		3
Social Sciences *		9
Total Hours		36

\* Must be selected from the university-approved list of lower level Humanities, Fine Arts and Social Science courses found in the main University Core (p. 81) list.

## Minors in Other Colleges and Schools

Students in the College of Engineering may pursue an academic minor in other colleges. For example, a minor in business is popular among engineering students. For requirements regarding minors, check the catalog listing for the department offering the minor. Students must notify the College of Engineering dean's office of their intent to pursue a minor.

## Requirements to Graduate with Honors

Students who have demonstrated exceptional academic performance in baccalaureate degree programs will be recognized at graduation by the honors designation of *cum laude*, *magna cum laude*, or *summa cum laude*. To earn this designation, the student must meet the following criteria:

1. Must have completed at least one-half of his or her degree work at the University of Arkansas;
2. Must have at least a 3.50 GPA on University of Arkansas course work, computed at graduation (students with grade-point averages lower than 3.50 do not receive honors designation at graduation);
3. Must successfully complete the Engineering Honors Program, which includes a minimum of 12 hours of honors courses (at least 6 of these hours in engineering), an undergraduate research experience and thesis, and any additional departmental requirements;
4. Research and thesis material shall be evaluated by each department;
5. For *cum laude*, the student must achieve a GPA of 3.50 or higher and have good or better performance on the undergraduate research and thesis;
6. For *magna cum laude*, the student must achieve a GPA of 3.75 or higher and have good or better performance on the undergraduate research and thesis;
7. For *summa cum laude*, the student must achieve a GPA of 3.90 or higher and have outstanding performance on the undergraduate research and thesis.

The criteria may be evaluated and changed periodically by the College of Engineering.

## Requirements to Graduate with Distinction

Students who have not completed the Engineering Honors Program but have demonstrated excellent academic performance in baccalaureate degree programs will be recognized at graduation by the designation of "with distinction," "with high distinction," or "with highest distinction." To earn these designations, the student must meet the following criteria on his or her University of Arkansas course work:

1. Must have completed at least one-half of his or her degree work at the University of Arkansas;
2. For "with distinction," the student must achieve a GPA of 3.60 or higher;
3. For "with high distinction," the student must achieve a GPA of 3.75 or higher;
4. For "with highest distinction," the student must achieve a GPA of 3.90 or higher.

The criteria may be evaluated and changed periodically by the College of Engineering.

## Graduate Studies

The College of Engineering, in cooperation with the UA Graduate School, offers programs leading to the following graduate degrees:

- Master of Science in Biological Engineering (M.S.B.E.)
- Master of Science in Biomedical Engineering (M.S.Bm.E.)
- Master of Science in Chemical Engineering (M.S.Ch.E.)
- Master of Science in Civil Engineering (M.S.C.E.)
- Master of Science in Computer Engineering (M.S.Cmp.E.)
- Master of Science in Computer Science (M.S.)
- Master of Science in Electrical Engineering (M.S.E.E.)
- Master of Science in Engineering (M.S.E.)
- Master of Science in Environmental Engineering (M.S.En.E.)
- Master of Science in Industrial Engineering (M.S.I.E.)
- Master of Science in Mechanical Engineering (M.S.M.E.)
- Master of Science in Operations Management (M.S.O.M.)
- Doctor of Philosophy in Computer Science (Ph.D.)
- Doctor of Philosophy in Engineering (Ph.D.)

In addition, the College of Engineering supports the following interdisciplinary graduate programs:

- Master of Science in Cellular and Molecular Biology (M.S.)
- Master of Science in Microelectronics-Photonics (M.S.)
- Master of Science in Space and Planetary Sciences (M.S.)
- Doctor of Philosophy in Cellular and Molecular Biology (Ph.D.)
- Doctor of Philosophy in Microelectronics-Photonics (Ph.D.)
- Doctor of Philosophy in Space and Planetary Sciences (Ph.D.)

Further information concerning these programs may be found in the Graduate School Catalog or in the office of the dean of the Graduate School.

## Accreditations

As the only comprehensive engineering program in Arkansas, the College of Engineering offers undergraduate, graduate, and doctoral degrees through eight academic departments. UA engineering programs have been continuously accredited by ABET since 1936.

The College of Engineering offers the following programs accredited by the Engineering Accreditation Commission of ABET. Visit <http://www.abet.org>.

- Bachelor of Science in Biological Engineering (B.S.B.E.)
- Bachelor of Science in Biomedical Engineering (B.S.Bm. E)
- Bachelor of Science in Chemical Engineering (B.S.Ch.E.)
- Bachelor of Science in Civil Engineering (B.S.C.E.)
- Bachelor of Science in Computer Engineering (B.S.Cmp.E.)
- Bachelor of Science in Electrical Engineering (B.S.E.E.)
- Bachelor of Science in Industrial Engineering (B.S.I.E.)
- Bachelor of Science in Mechanical Engineering (B.S.M.E.)

The College Engineering offers the following program accredited by the Computing Accreditation Commission of ABET. Visit <http://www.abet.org>.

- Bachelor of Science in Computer Science (B.S.)

## Office of the Dean of the College

4183 Bell Engineering Center, 479-575-6012

### Dean

John English

### Senior Associate Dean

Norman D. Dennis

### Associate Dean for Research

Heather Nachtmann

### Assistant Dean for Finance

Larry Esch

### Assistant Dean for Recruitment

Bryan Hill

### Assistant Dean for Student Affairs

Thomas Carter, III

## Academic Programs Office

3189 Bell Engineering, 479-575-3052

**Website:** [engineering.uark.edu](http://engineering.uark.edu)

**Email:** [engrinfo@uark.edu](mailto:engrinfo@uark.edu)

## Degrees Offered

The College of Engineering offers programs leading to the following eight undergraduate degrees:

- Bachelor of Science in Biological Engineering (p. 477) (B.S.B.E.)
- Bachelor of Science in Biomedical Engineering (p. 480) (B.S.Bm.E.)
- Bachelor of Science in Chemical Engineering (p. 495) (B.S.Ch.E.)
- Bachelor of Science in Civil Engineering (p. 482) (B.S.C.E.)
- Bachelor of Science in Computer Engineering (p. 484) (B.S.Cmp.E.)
- Bachelor of Science in Computer Science (p. 484) (B.S.)
- Bachelor of Arts in Computer Science (p. 484) (B.A.)
- Bachelor of Science in Electrical Engineering (p. 488) (B.S.E.E.)
- Bachelor of Science in Industrial Engineering (p. 491) (B.S.I.E.)
- Bachelor of Science in Mechanical Engineering (p. 493) (B.S.M.E.)

## Other Programs

### Off-Campus Programs

The College of Engineering at the University of Arkansas (UofA) is offering the Bachelor of Science degrees in Electrical Engineering and Mechanical Engineering at the University of Arkansas at Fort Smith (UAFS). Upper-division courses are taught in person or through distance-learning technology by UAF faculty, and lower-division courses are taught by UAFS faculty. The degree is awarded by University of Arkansas (UofA), but all classes are offered at the UAFS campus.

## Cooperative Education

Kelsey Lavigne

Career Development Center, College of Engineering, Bell 3158  
(479) 575-6201, Fax: (479) 575-7744, [klavigne@uark.edu](mailto:klavigne@uark.edu)

Cooperative education (co-op) is an academic program that allows students to gain practical work experience prior to graduation. Over the years thousands of engineering students have participated in the co-

op program at the University of Arkansas, gaining experience related to their major locally, within the state, across the nation, and internationally. Students work either full- or part-time in paid, degree-related jobs, and the skills they acquire allow them to step into their first full-time positions ready to contribute in ways that other students cannot. The material below will give more information about the co-op program.

## Forms of Cooperative Education: Alternating and Parallel

In an alternating plan, students alternate between semesters of on-campus study and semesters off-campus at their co-op work site. Students can take a maximum of 3 credit hours of course work during the off-campus co-op periods. In a parallel co-op, students work part-time for a local company (less than 25 hours each week) and attend school at least half-time (6 credit hours). In either plan the student is considered a full-time student.

By participating in Cooperative Education, students have the chance to:

- Gain hands-on experience in a real world setting
- Confirm the choice of their major
- Make valuable industry contacts
- Enhance their communication skills
- Make money while also taking classes
- Lay the foundations for a future full-time job

## Requirements and Conditions

- GNEG 3801 (undergraduate students working part-time):
  - Must have completed 30 hours towards engineering degree.
  - Must have a minimum of 2.25 cumulative GPA.
  - Must be enrolled at least half-time and must be working part-time at co-op.
- GNEG 3811 (undergraduate students working full-time):
  - Must have completed 30 hours toward engineering degree.
  - Must have a minimum of a 2.25 cumulative GPA.
  - Must be working full-time and must not be enrolled in more than 3 credit hours.
  - Must have at least 12 hours of coursework in their major remaining upon return to campus.
- GNEG 5801 (graduate students working part-time):
  - Completed at least 6 hours towards engineering degree.
  - Have a minimum of a 3.0 cumulative GPA.
  - Must be enrolled at least half-time and must be working part-time at co-op.
  - Must have approval of their thesis/dissertation advisor prior to interviewing for co-op positions.
- GNEG 5811 (graduate students working full-time):
  - Completed at least 6 hours towards engineering degree.
  - Have a minimum of a 3.0 cumulative GPA.
  - Must be working full-time and must not be enrolled in more than 3 credit hours.
  - Must have at least 3 hours of non-thesis, -dissertation, or -research hours remaining upon return to campus.
  - Must have approval of their thesis/dissertation advisor prior to interviewing for co-op positions.

- Students who are TA's, GA's, or RA's *in the term of their work experience* are not eligible for this course.
- Transfer Students
  - Must have completed one semester of full-time study in the College of Engineering.
  - Must meet all other co-op requirements.
- F-1 Students
  - Must have completed nine months of study in the United States.
  - Must meet all other co-op requirements.

Full-time co-op assignments consist of the following scenarios:

- One semester away from campus (Spring, Summer, or Fall).
- One summer and one semester away from campus (Spring & Summer OR Summer & Fall).
- Alternating Semesters between Spring, Summer, and Fall.

Students who are away from campus for 2 semesters in one year, are eligible for only one semester away the following year with no more than three co-op semesters in a 24-month period. (Exceptions to this must be approved in advance by their departmental co-op representative.) Students who are going to be away from campus for the Fall and Spring semester in the same academic must receive prior approval from their departmental co-op representative.

## Study Abroad Programs

The College of Engineering actively encourages engineering students to obtain an international experience while pursuing an engineering degree. Students have several opportunities to join engineering faculty-led programs in India, Belize and Spain as well as opportunities within the Southeastern Conference Academic Consortium (SECAC). For more information on study abroad opportunities, contact the Assistant Dean for International Programs, 479-575-7236.

## Dual-Degree Transfer Programs

The College of Engineering recognizes that a graduate engineer, to be of full service to community, must be educated in the social sciences and humanities as well as in technical subjects. The practice of industry to elevate engineers to managerial and administrative positions elevates the desirability of a broad educational background. Likewise, most universities within Arkansas do not offer a degree in engineering. Accordingly, the College of Engineering of the University of Arkansas has entered into a cooperative program with several Arkansas "partner" universities to provide for dual-degree programs that lead to a Bachelor of Science degree from the partner university and an engineering degree from the University of Arkansas. Typically, a student spends two to three years at the partner university and then completes an engineering curriculum in two to three years at the University of Arkansas. The student is awarded the Bachelor of Art/Bachelor of Science degree by the partner university and the Bachelor of Science in an engineering discipline by the University of Arkansas. More information is available at [www.engr.uark.edu/transfer](http://www.engr.uark.edu/transfer)

## Honors Program

The College of Engineering has established an honors program to challenge superior students with a more in-depth academic program and research experience and to provide a structure for working more closely with faculty members and other students in a team environment. An honors program is highly recommended for individuals planning academic or research related careers that require considerable critical and original

independent thinking. Admission requirements for the college's Honors Program are as follows: entering freshmen must have at least a 3.5 high school GPA and at least a 28 composite score on the ACT or SAT equivalent; entering transfer students must have at least a 3.5 GPA on their transfer work. Students not initially qualifying for the Engineering Honors Program are eligible if they earn a 3.500 cumulative GPA at the University of Arkansas.

Students must formally apply for admission to the Honors Program by completing the online application. The application is available at <http://honorscollege.uark.edu/195.php>. Once accepted into the program, Honors students take a minimum of 12 hours of Honors courses (a minimum of 6 of these 12 hours must be in engineering), participate in undergraduate research and write an undergraduate thesis, and must fulfill any additional departmental requirements. To receive Latin honors distinction at graduation, a student must hold a cumulative GPA of 3.500 or better (for all course work, computed at graduation).

Deadlines related to the Honors Program are as follows:

1. A Honors Advising Form is to be completed prior to a student earning 100 semester hours.
2. Honors College Graduation Certification is to be completed prior to one week before the last day of classes of the student's last semester.

All freshman enrolling in the College of Engineering may participate in an Eight-Semester Degree Completion Program (p. 73).

All students who want to pursue an engineering degree or a Bachelor of Science in Computer Science should follow the plan below for the first two semesters, at the end of which they may finish an eight-semester plan in Computer Science (p. 484) (B.S.) or choose from among any of the engineering fields: Biological Engineering (p. 477), Biomedical Engineering (p. 480), Chemical Engineering (p. 495), Civil Engineering (p. 482), Computer Engineering (p. 484), Electrical Engineering (p. 488), Industrial Engineering (p. 491), or Mechanical Engineering (p. 493).

First Year	Units	
	Fall	Spring
GNEG 1111 Introduction to Engineering I (Sp, Fa)	1	
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	4	
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa)	3	
PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa)	4	
GNEG 1121 Introduction to Engineering II (Sp, Fa)		1
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa)		4
Freshman Science Elective (See specific major for requirements)		4
Humanities/Social Science Elective (See specific major for requirements)		3
Year Total:	15	15

Total Units in Sequence:	30
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### Specific University Core Requirements for Engineering Students

<b>English</b>	<b>6</b>
ENGL 1013	Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)
ENGL 1023	Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa) (ENGL 1023 Technical Composition II may be taken in lieu of Composition II)
<b>Mathematics</b>	<b>4</b>
MATH 2554	Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)
<b>Science</b>	<b>8</b>
Engineering students are required to take two additional science courses with matching labs beyond the minimum 8 hours required by university core.	
CHEM 1103	University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa)
PHYS 2054	University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa)
<b>U.S. History or Government</b>	<b>3</b>
HIST 2003	History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)
HIST 2013	History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)
PLSC 2003	American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)
<b>Fine Arts</b>	<b>3</b>
<b>Humanities</b>	<b>3</b>
<b>Social Sciences</b>	<b>9</b>

## Biological and Agricultural Engineering (BAEG)

### Faculty

**Thomas A. Costello**, Associate Professor

**Brian Edward Haggard**, Professor

**Christopher Garrett Henry**, Assistant Professor

**Jin-Woo Kim**, Professor

**Yanbin Li**, Distinguished Professor, Tyson Endowed Chair in Biosensing Engineering

**Yi Liang**, Associate Professor

**Otto J. Loewer Jr.**, Professor

**Ranjitsinh Mane**, Research Program Associate

**Marty D. Matlock**, Professor

**G. Scott Osborn**, Associate Professor

**Benjamin R.K. Runkle**, Assistant Professor

**Sammy Sadaka**, Assistant Professor

**Bailey A. Sullivan**, Instructor

**Karl VanDevender**, Professor

**Lalit R. Verma**, Professor

**Jun Zhu**, Professor

Lalit Verma

Head of the Department

203 Engineering Hall

479-575-2351

Biological and Agricultural Engineering website (<http://bio-ag-engineering.uark.edu>)

Healthy Planet, Healthy People: this is the aspiration for the Biological Engineering program at the University of Arkansas. We improve people's lives today and help assure a prosperous world for tomorrow by designing sustainable water, food, and energy systems. Where challenges exist, we create solutions by optimizing the living systems of our world (the interactions of human, plant, animal, environment, food, and microbes) using the tools of engineering and biotechnology. Biological engineers contribute significantly to human health and prosperity by ensuring a safe and readily available water supply, a safe and nutritious food supply, and a healthy ecosystem upon which both water and food depend.

The educational objectives of the Biological Engineering program at the University of Arkansas are to produce graduates who:

1. Competently and ethically practice engineering in the design and management of water, food, energy and related systems.
2. Make valuable and life-long contributions that benefit employers, clients and communities in Arkansas and the world.
3. Succeed in continuing professional development, including graduate studies, as needed for professional growth.

A Bachelor of Science degree in Biological Engineering is a job-ready degree with opportunities in a variety of industries, government agencies, and consulting firms. It is also excellent preparation for graduate studies (M.S. or Ph.D.) in engineering and related fields, as well as entry into other professional schools (e.g., medical, veterinary, dental, pharmacy, etc.).

The B.S. in Biological Engineering degree can lead immediately to careers in:

- Ecological Engineering (water quality and watershed management, water resources and irrigation, low impact development in urban watersheds, stream and habitat restoration, and air quality remediation).
- Food and Bio-Product Process Engineering (food processing, forest products, biotechnology, biofuels, waste treatment and by-product utilization).
- Sustainable Resource Engineering (sustainable agriculture to expand the food supply for a growing population; renewable and bio-energy development; life cycle analysis to assess, design and manage complex biological systems; efficient utilization of organic residues and by-products; conservation of Earth's finite resources).

## Requirements for B.S. in Biological Engineering

The undergraduate program in biological engineering, leading to a Bachelor of Science degree in Biological Engineering, is accredited by the Engineering Accreditation Commission of ABET (<http://www.abet.org>). The B.S. in Biological Engineering degree is conferred by the College of Engineering and is granted after the successful completion of 128 hours of approved course work.

Diverse applications of biological engineering can be pursued through elective coursework. Each student is required to complete 9 semester hours of technical/engineering electives that are relevant to their career goals. At least 3 hours must be engineering courses within BENG

or other engineering programs. The other six hours can be selected from engineering, math, biology, agriculture, sustainability, and other science/technical areas. A list of suggested electives is maintained by the department. Students may petition their adviser for other electives that are not on this list. Courses must provide engineering or technical content that is value-added (i.e. not duplicating or remedial) and meets the career goals of the student.

## Biological Engineering B.S.B.E. Eight-Semester Degree Program

The Bachelor of Science in Biological Engineering program is eligible for students who want to participate in an Eight Semester Degree Program. See the Eight-Semester Degree Policy (p. 73) for more details. The plan below lists a semester-by-semester sequence of courses to finish the degree in eight semesters. University core courses for engineering are listed at the bottom of this page. Students may submit a maximum of four (4) hours of "D" in BENG Courses for their degree.

Some courses are not offered every semester, so students who deviate from the suggested sequence must pay careful attention to course scheduling and course pre-requisites.

First Year	Units	
	Fall	Spring
GNEG 1111 Introduction to Engineering I (Sp, Fa)	1	
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa)	3	
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	4	
PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa)	4	
GNEG 1121 Introduction to Engineering II (Sp, Fa)		1
ENGL 1033 Technical Composition II or ENGL 1023 Composition II		3
Freshman Engineering Science Elective <sup>1</sup>		4
MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa)		4
HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa) or HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa) or PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)		3
Year Total:	15	15

Second Year	Units	
	Fall	Spring
BENG 2632 Biological Engineering Design Studio (Fa)	2	
MATH 2574 Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa)	4	
Sophomore Science Elective <sup>2</sup>	4	
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa)	3	

BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	1	
MEEG 2003 Statics (Sp, Su, Fa)	3	
BENG 2643 Biological Engineering Methods I (Sp)		3
MATH 2584 Elementary Differential Equations (Sp, Su, Fa)		4
BIOL 2013 General Microbiology (ACTS Equivalency = BIOL 2004 Lecture) (Sp, Su, Fa)	3	
BIOL 2011L General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa)	1	
MEEG 2403 Thermodynamics (Sp, Su, Fa) ( Social Science Elective (from University/State core list) or CHEG 2313 Thermodynamics of Single-Component Systems (Sp, Su, Fa)	3	
Social Science Elective (from University/State core list)		3
Year Total:	17	17

Third Year	Units	
	Fall	Spring
BENG 3653 Global Bio-Energy Engineering (Fa)	3	
BENG 3733 Transport Phenomena in Biological Systems (Fa)	3	
BENG 3663 Biological Engineering Methods II (Fa)	3	
CHEM 3603/3601L Organic Chemistry I w/Lab or CHEM 2613/2611L Organic Physiological Chemistry w/Lab	4	
CVEG 3213 Hydraulics (Sp, Fa) or MEEG 3503 Mechanics of Fluids (Su, Fa) or CHEG 2133 Fluid Mechanics (Sp, Su, Fa)	3	
BENG 3723 Unit Operations in Biological Engineering (Sp)		3
BENG 3113 Measurement and Control for Biological Systems (Sp)		3
BIOL 3863 General Ecology (Sp, Fa)		3
CVEG 3223 Hydrology (Sp, Fa)		3
Technical Elective		3
Year Total:	16	15

Fourth Year	Units	
	Fall	Spring
BENG 4812 Senior Biological Engineering Design I (Fa)	2	
BENG 4831 Biological Engineering Professionalism (Fa)	1	
BENG 4743 Food and Bio-Product Systems Engineering (Fa)	3	
BENG 4933 Sustainable Watershed Engineering (Fa)	3	
Humanities Elective (from University/State core list)	3	
Social Science Elective (from University/State Core list)	3	
BENG 4823 Senior Biological Engineering Design II (Sp)		3
BENG 4663 Sustainable Biosystems Designs (Sp)		3



Technical Elective (Engineering)	3
Fine Arts Elective (from University/State Core list)	3
Social Science Elective (from University/State core list)	3
Technical Elective	3
Year Total:	15 18

Total Units in Sequence: 128

<sup>1</sup> The Freshman Engineering Science Elective must be chosen from either CHEM 1123/112L or PHYS 2074.

<sup>2</sup> The Sophomore Science Elective must be: PHYS 2074 if CHEM 1123/112L was chosen as the Freshman Engineering Science Elective; or CHEM 1123/112L if PHYS 2074 was chosen as the Freshman Engineering Science Elective. That is, both courses are required for the degree.

### Suggested Engineering Electives

BENG 4123	Biosensors & Bioinstrumentation (Odd years, Sp) (Prerequisite: BIOL 2013 or BIOL 2533 and BENG 3113.)	3
BENG 4753L	Nanotechnology Laboratory (Fa) ( Prerequisite: MATH 2564, PHYS 2074, CHEM 1123 or CHEM 1133.)	3
CVEG 2053	Surveying Systems (Sp, Fa) ( Pre- or Corequisite: MATH 2554. Corequisite: CVEG 2051L.)	3
CVEG 3243	Environmental Engineering (Sp, Fa) (Prerequisite: MATH 2584 with a grade of C or better, and CHEM 1103 or CHEM 1113 with a grade of C or better.)	3
CVEG 4243	Environmental Engineering Design (Sp, Fa) (Prerequisite: CVEG 3243 with a grade of C or better.)	3
CVEG 4263	Air Pollution Control (Sp) (Prerequisite: CVEG 3213 or MEEG 3503.)	3
CVEG 4513	Construction Management (Sp, Fa) ( Prerequisite: Senior standing.)	3
INEG 2313	Applied Probability and Statistics for Engineers I (Sp, Fa) (Prerequisite: MATH 2564.)	3
INEG 2413	Engineering Economic Analysis (Sp, Fa) (Prerequisite: MATH 2554.)	3
MEEG 4453	Industrial Waste and Energy Management (Irregular) (Prerequisite: MEEG 4413.)	3
MEEG 4473	Indoor Environmental Control (Irregular) (Prerequisite: MEEG 4413.)	3

### Suggested Technical Electives

AGEC 3503	Agricultural Law I (Fa) (Pre- or Corequisite: (CHEM 1123 and CHEM 1121L) or (CHEM 1223 and CHEM 1221L) or (CHEM 1133 and CHEM 1131L) or equivalent. Prerequisite: BIOL 1543 and BIOL 1541L.)	3
AGEC 3523	Environmental and Natural Resources Law (Even years, Sp)	3
AGME 3153	Surveying in Agriculture and Forestry (Fa)	3
AGST 4023	Principles of Experimentation (Fa)	3
BENG 3603	Metrics for Sustainable Agricultural Systems (Fa)	3

	or CSES 3603 Metrics for Sustainable Agricultural Systems (Fa)	
BIOL 2533	Cell Biology (Sp, Fa) (Pre- or Corequisite: (CHEM 1123 and CHEM 1121L) or (CHEM 1223 and CHEM 1221L) or (CHEM 1133 and CHEM 1131L) or equivalent. Prerequisite: BIOL 1543 and BIOL 1541L.)	3
BIOL 4734	Wildlife Management Techniques (Irregular) (Corequisite: Lab component. Prerequisite: BIOL 3863.)	4
BIOL 4814	Limnology (Odd years, Fa) (rerequisite: (CHEM 1123 and CHEM 1121L) or equivalent and BIOL 3863 or instructor's permission.)	4
BIOL 4333	Biotechnology in Agriculture (Fa)	3
CHEM 3613	Organic Chemistry II (Sp, Su) (Corequisite: CHEM 3611L and related course component drill section for CHEM 3613. Prerequisite: (CHEM 3603 and CHEM 3601L) or (CHEM 3603H and CHEM 3602M) or (CHEM 3703 and CHEM 3702L).)	3
CHEM 3813	Elements of Biochemistry (Sp, Su, Fa) (Prerequisite: (CHEM 3613 and CHEM 3611L) or (CHEM 3613H and CHEM 3612M) or (CHEM 3713 and CHEM 3712L) or (CHEM 2613 and CHEM 2611L).)	3
CSES 2203	Soil Science (Sp, Fa) ( Prerequisite: MATH 1203 and CHEM 1103 or CHEM 1073.)	3
CSES 3214	Soil Resources and Nutrient Cycles (Odd years, Sp)	4
CSES 4303	Bioenergy Feedstock Production (Sp) (Prerequisite: MATH 1203 and BIOL 1543 or CSES 1203. Courses in introductory chemistry or soil science are preferred.)	3
ENSC 3103	Plants and Environmental Restoration (Fa) (Pre Req CSES 1203 or HORT 2003 or BIOL 1613)	3
ENSC 3223 & ENSC 3221L	Ecosystems Assessment (Even years, Fa) and Ecosystems Assessment Laboratory (Even years, Fa) (Pre-req BIOL 1543)	4
ENSC 3263	Soil and Water Conservation (Fa) (pre-req CSES 2203)	3
ENSC 3413	Principles of Environmental Economics (Sp) (requires pre-req AGECE 1103 or ECON 2023)	3
or AGECE 3413	Principles of Environmental Economics (Sp)	
ENSC 3603	GIS for Environmental Science (Odd Years, Sp) (pre-req CSES 2203)	3
ENSC 3933	Environmental Ethics (Odd years, Sp) (pre-req ENSC 1003 and PHIL 2003 or PHIL 2103)	3
ENSC 4023	Water Quality (Fa) (Pre-req: CHEM 1123 and CHEM 1121L and BIOL 1543 and BIOL1541L.)	3
ENSC 4034	Analysis of Environmental Contaminants (Even years, Sp) (Pre- or Coreq: CHEM 2613 and CHEM 2611L or CHEM 3603 and 3601L)	4
ENSC 4263	Environmental Soil Science (Even years, Sp) (pre-req CSES 3214)	3
FDSC 4122	Food Microbiology (Fa) (Pre-req BIOL 2013 & BIOL 2011L or BIOL 2533)	2
FDSC 4304	Food Chemistry (Fa)	4
GEOS 1113	General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa)	3

GEOS 3052	Geology for Engineers (Fa)	2
GEOS 4033	Hydrogeology (Sp)	3
GEOS 4063	Principles of Geochemistry (Fa) (pre-req GEOS 2313)	3
GEOS 4413	Principles of Remote Sensing (Fa) (pre-req GEOS 3023 or GEOS 3543)	3
GEOS 4693	Environmental Justice (Sp)	3
STAT 4003	Statistical Methods (Sp, Fa) (Corequisite: STAT 4001L. Prerequisite: MATH 2554.)	3
SUST 4103	Capstone Experience in Sustainability (Sp) (Prerequisite: SUST 1103 and SUST 2103.)	3

## Biomedical Engineering (BMEG)

### Faculty

**Kartik Balachandran**, Assistant Professor  
**Hanna Katariina Jensen**, Research Assistant Professor  
**Morten O. Jensen**, Associate Professor  
**Myunghee Michelle Kim**, Clinical Assistant Professor  
**Timothy J. Muldoon**, Assistant Professor  
**Priyaveena Puvanakrishnan**, Instructor  
**Xianghong Qian**, Professor  
**Kyle P. Quinn**, Assistant Professor  
**Narasimhan Rajaram**, Assistant Professor  
**Raj R. Rao**, Professor  
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Biomedical Engineering Website (<http://biomedical-engineering.uark.edu>)

Biomedical engineering encompasses the creation, design, and operation, of processes / technology related to the broad field of human healthcare. The profession traditionally has focused on applications related to the development of instrumentation and diagnostic equipment, discovery of novel treatment options, production of new therapeutics, and the elucidation of underlying biophysical phenomena. Newer applications of bioengineering take advantage of the ever deepening understanding of human physiology and molecular genetics, as related to prevention, detection, and treatment of medical conditions. The program objectives of the Biomedical Engineering undergraduate program are to produce graduates who are capable of:

- Succeeding in practice at the interface between life science and engineering, in other professional activities, or in post-baccalaureate studies, and
- Utilizing their engineering education/experience in creating new knowledge or enabling technologies for improvement of human health and healthcare, and
- Conducting themselves with high standards of professional ethics and integrity, and
- Being aware of the limits of their knowledge and initiate self-directed learning to create future professional opportunities for themselves in biomedical engineering.

Completion of the degree requirements provides for the following educational outcomes:

- An ability to apply knowledge of mathematics, science, and engineering
- An ability to design and conduct experiments, as well as to analyze and interpret data
- An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- An ability to function on multidisciplinary teams
- An ability to identify, formulate, and solve engineering problems
- An understanding of professional and ethical responsibility
- An ability to communicate effectively
- The broad education necessary to understand the impact of engineering solutions in global, economic, environmental, and societal contexts
- A recognition of the need for, and an ability to engage in life-long learning
- A knowledge of contemporary issues
- An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

These educational outcomes are experienced within the context of biology and physiology appropriate to solving problems at the interface of engineering and biology.

## Requirements for B.S. in Biomedical Engineering

### Technical Options in Biomedical Engineering

Each student in biomedical engineering is required to complete nine semester hours of biomedical engineering technical electives. Biomedical engineering technical elective courses must be selected from a faculty-approved list of courses found in the department's Undergraduate Advising Handbook, which is available on the department's website (<http://biomedical-engineering.uark.edu>). Elective courses are chosen with the aid of an academic adviser to better prepare for employment or further study in areas such as:

- Bioengineering
- Pharmaceutical manufacturing or pharmacology
- Biomedical device design
- Medicine
- Business
- Law

### Technical Elective Course

Each student in biomedical engineering is required to complete three semester hours of upper level science electives. Upper level (3000 and above) science electives will be chosen from courses in mathematics, engineering, and the sciences with the approval of their adviser. The department maintains a list of approved upper level science electives that may be found in the department's Undergraduate Advising Handbook, which is available on the department's website (<http://biomedical-engineering.uark.edu>).

## Biomedical Engineering B.S.Bm.E. Eight-Semester Degree Program

The following section contains the list of courses required for the Bachelor of Science in Biomedical Engineering degree and a suggested sequence

for students who enter the College through the Freshman Engineering Program. Not all courses are offered every semester, so students who deviate from the suggested sequence must pay careful attention to course scheduling and course prerequisites. Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	4	
PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa) (with lab)	4	
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa)	3	
GNEG 1111 Introduction to Engineering I (Sp, Fa)	1	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
Freshman Science Elective with lab*		4
MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa)	4	
HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa) or HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa) or PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)		3
GNEG 1121 Introduction to Engineering II (Sp, Fa)		1
Year Total:	15	15

Second Year	Units	
	Fall	Spring
BMEG 2613 Introduction to Biomedical Engineering (Fa)	3	
MATH 2574 Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa)	4	
Sophomore Science Elective with lab**	4	
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	4	
BMEG 2813 Biomechanical Engineering (Sp)		3
BMEG 2904 Biomedical Instrumentation (Sp) (with Lab)		4
MATH 2584 Elementary Differential Equations (Sp, Su, Fa)		4
BIOL 2533 Cell Biology (Sp, Fa)		3
Fine Arts Elective (from Univ/State Core List)		3
Year Total:	15	17

Third Year	Units	
	Fall	Spring
BMEG 3634 Biomaterials (Fa) (with lab)	4	

BMEG 3124 Biomedical Signals and Systems (Fa) (with lab)	4	
CHEG 2313 Thermodynamics of Single-Component Systems (Sp, Su, Fa) or MEEG 2403 Thermodynamics (Sp, Su, Fa)	3	
CHEM 3603 Organic Chemistry I (Su, Fa) & CHEM 3601L Organic Chemistry I Laboratory (Su, Fa)	4	
Social Science Elective (from Univ/State Core List)	3	
BMEG 3653 Biomedical Modeling and Numerical Methods (Sp)		3
BMEG 3824 Biomolecular Engineering (Sp) (with lab)		4
CHEG 2133 Fluid Mechanics (Sp, Su, Fa) or MEEG 3503 Mechanics of Fluids (Su, Fa)		3
BIOL 2213 Human Physiology (ACTS Equivalency = BIOL 2414 Lecture) (Sp, Fa) & BIOL 2211L Human Physiology Laboratory (ACTS Equivalency = BIOL 2414 Lab) (Sp, Fa)		4
CHEM 3613 Organic Chemistry II (Sp, Su) & CHEM 3611L Organic Chemistry II Laboratory (Sp, Su)		4
Year Total:	18	18

Fourth Year	Units	
	Fall	Spring
BMEG 4813 Biomedical Engineering Design I (Fa)	3	
BMEG 4623 Biomedical Transport Phenomena (Fa)	3	
BMEG Elective	3	
Science Elective	3	
Social Science Elective (from Univ/State Core List)	3	
BMEG 4823 Biomedical Engineering Design II (Sp)		3
BMEG Elective		3
BMEG Elective		3
Social Science Elective (from Univ/State Core List)		3
Humanities Elective (from Univ/State Core List)		3
Year Total:	15	15

Total Units in Sequence: 128

\* The Freshman Science Elective must be chosen from either CHEM 1123/CHEM 1121L or PHYS 2074.

\*\* The Sophomore Science Elective must be either PHYS 2074 or CHEM 1123/CHEM 1121L. (Whichever was not chosen as the Freshman Engineering Science Elective).

#### Biomedical Engineering Technical Electives

BMEG 4103L	Nanotechnology Laboratory (Fa)	3
BMEG 4103M	Honors Nanotechnology Laboratory (Fa)	3
BMEG 4213	Tissue Mechanics (Irregular)	3
BMEG 4243	Advanced Biomaterials and Biocompatibility (Irregular)	3
BMEG 4404	Biomedical Microscopy (Irregular)	4
BMEG 4413	Tissue Engineering (Irregular)	3

BMEG 450VH	Honors Thesis (Sp, Su)	1-4
BMEG 460V	Individual Study (Sp, Su, Fa)	1-3
BMEG 460VH	Honors Individual Study (Sp, Su, Fa)	1-3
BMEG 4743	Drug and Gene Delivery (Irregular)	3
BMEG 4873	Bionanotechnology (Irregular)	3
BMEG 4973	Regenerative Medicine (Irregular)	3
BMEG 470V	Special Topics in Biomedical Engineering (Irregular)	1-4

## Honors Program Requirements

Students enrolled in the Honors College who are to receive the Bachelor of Science in Biomedical Engineering must complete a minimum of 12 hours of honors credit. At least 6 hours must be completed within the Biomedical Engineering program including at least 3 hours resulting in an Honors Thesis. The BMEG honors courses are acceptable as engineering electives and in some cases may be substituted for required courses.

## Civil Engineering (CVEG)

### Faculty

**Natalie K. Becknell**, Instructor  
**Michelle Bernhardt**, Assistant Professor  
**Andrew F. Braham**, Assistant Professor  
**Rick Coffman**, Associate Professor  
**Norman D. Dennis Jr.**, University Professor  
**Findlay Edwards**, Associate Professor  
**Julian Fairey**, Associate Professor  
**Eric Fernstrom**, Instructor  
**Mary Fleck**, Instructor  
**J. L. Gattis II**, Professor  
**Micah Hale**, Professor  
**Kevin D. Hall**, Professor, 21st Century Leadership Chair in Civil Engineering  
**Sarah Hernandez**, Assistant Professor  
**Ernie Heymsfield**, Associate Professor  
**Michael Johnson**, Professor  
**Gary S. Prinz**, Assistant Professor  
**R. Panneer Selvam**, University Professor, James T. Womble Professor of Computational Mechanics and Nanotechnology Modeling  
**Rodney D. Williams**, Assistant Professor  
**Stacy Goad Williams**, Associate Professor  
**Clinton M. Wood**, Assistant Professor  
**Wen Zhang**, Assistant Professor

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Civil engineering is the oldest of all the engineering fields, yet it is as contemporary as the need to provide solutions to today's environmental, structural and transportation problems. The civil engineer plans, designs, builds, and operates projects for the advancement and well-being of society while coordinating and conserving human and natural resources. Civil engineering projects range from small to monumental and include public water systems, buildings, bridges, rail and highway networks, water and wastewater treatment plants, solid and hazardous waste disposal facilities, airports, and soil conservation and flood diversion controls.

The civil engineering profession offers a vast array of opportunities. Civil engineers may work in private employment or with public agencies. They may work indoors in activities such as planning and design, or outdoors in areas such as construction supervision. Employment is possible anywhere in the world.

The objective of the Civil Engineering undergraduate program is to produce graduates who are prepared to pursue:

- careers in the broad field of Civil Engineering
- licensure as a Professional Engineer
- advanced education

To fulfill this objective, all students must take courses in geotechnical, environmental, transportation, and structural engineering. Courses are designed to present "real world" applications without sacrificing conceptual and theoretical basics. Students complete design problems in each of these areas; and, as part of the senior year, they participate in two major design projects.

## Requirements for B.S. in Civil Engineering Elective Courses

Students must select three 3-hour civil engineering elective courses in conference with their adviser. Normally, the civil engineering courses are selected from among the 4000-level elective CVEG courses. Exceptional students may be allowed to choose from the 5000 (graduate-level) course series.

Students must also choose one elective course in science, engineering, technology, or math (STEM) field.

Humanities and social science electives are selected from courses approved by the university which satisfy the University Core general education requirement. Lists of approved electives are on file in the department office.

### Civil Engineering Design Electives

Students must complete two of the following four CVEG design project electives: CVEG 4812 Environmental Design Project (Sp), CVEG 4822 Geotechnical Design Project (Fa), CVEG 4832 Structural Design Project (Sp), and CVEG 4842 Transportation Design Project (Fa). Each design project elective is associated with a specific design-oriented course. The associated course must be taken at the same time as the design project elective. The associated courses may be taken alone but the design electives cannot.

### STEM Electives

Students must also choose one elective course in science, engineering, technology, or math (STEM) from among the following:

CSCE 2004	Programming Foundations I (Sp, Fa)	4
ELEG 3903	Electric Circuits and Machines (Sp, Fa)	3
GNEG 3113	Special Topics-Study Abroad (Irregular)	3
GNEG 3811	Alternating Cooperative Education (Sp, Su, Fa) (must get 3 separate rotations)	1
MEEG 2013	Dynamics (Sp, Su, Fa)	3
MEEG 2403	Thermodynamics (Sp, Su, Fa)	3
MEEG 2703	Computer Methods in Mechanical Engineering (Sp, Su)	3
GEOS 3023	Introduction to Cartography (Fa)	3

GEOS 3543	Geospatial Applications and Information Science (Sp, Fa)	3
GEOS 4533	Introduction to Petroleum Geophysics (Fa)	3
MATH 3083	Linear Algebra (Sp, Su, Fa)	3
MATH 4363	Numerical Analysis (Fa)	3
Any 3000-level or above science, technology, engineering or math course. (It is recommended that students consult with their adviser when making this selection.)		3

## Civil Engineering B.S.C.E. Eight-Semester Degree Program

The Civil Engineering B.S.C.E. program is eligible for freshman students who want to participate in an Eight-Semester Degree Program. See the Eight-Semester Degree Policy (p. 73) for details of the program.

The following section contains the list of courses required for the Bachelor of Science in Civil Engineering degree and a suggested sequence. Not all courses are offered every semester, so students who deviate from the suggested sequence must pay careful attention to course scheduling and course prerequisites.

See the list of university core courses (p. 81) available for engineering students.

First Year	Units	
	Fall	Spring
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	4	
PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa)	4	
GNEG 1111 Introduction to Engineering I (Sp, Fa)	1	
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa)	3	
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa)		4
GNEG 1121 Introduction to Engineering II (Sp, Fa)		1
Freshman Science Elective		4
Freshman Science Elective Lab		0
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
Select one of the following:		3
PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)		
HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)		
HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)		
Year Total:	15	15

Second Year	Units	
	Fall	Spring
MATH 2574 Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa)	4	

CVEG 2015 Fundamentals of Mechanics for Civil Engineers (Sp, Fa)	5	
CVEG 2053 Surveying Systems (Sp, Fa) & CVEG 2051L Surveying Systems Laboratory (Sp, Fa)	4	
Fine Arts Elective (from University/State Core list)	3	
MATH 2584 Elementary Differential Equations (Sp, Su, Fa)		4
CVEG 2002 Introduction to Civil Engineering Plans and CADD (Sp, Su, Fa)		2
CVEG 2113 Structural Materials (Sp, Fa)		3
INEG 2313 Applied Probability and Statistics for Engineers I (Sp, Fa)		3
GEOS 1113 General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa) & GEOS 1111L General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)		4
CVEG 2851 Engineering Professional Practice Issues (Sp, Fa)		1
Year Total:	16	17

Third Year	Units	
	Fall	Spring
CVEG 3303 Structural Analysis (Sp, Fa)	3	
CVEG 3213 Hydraulics (Sp, Fa)	3	
CVEG 3413 Transportation Engineering (Fa)	3	
INEG 2413 Engineering Economic Analysis (Sp, Fa)	3	
STEM Elective	3	
CVEG 4303 Reinforced Concrete Design I (Sp, Fa)		3
CVEG 3243 Environmental Engineering (Sp, Fa)		3
CVEG 3223 Hydrology (Sp, Fa)		3
CVEG 3133 Soil Mechanics (Sp, Fa)		3
CVEG 3131L Soil Mechanics Laboratory (Sp, Fa)		1
Social Science Elective (from University/State Core list)		3
Year Total:	15	16

Fourth Year	Units	
	Fall	Spring
CVEG 4143 Foundation Engineering (Sp, Fa)	3	
CVEG 4423 Geometric Design (Sp, Fa)	3	
Civil Engineering Elective*	3	
Civil Engineering Design Elective	2	
Humanities Elective (from University/State Core List)	3	
Social Science Elective (from University/State Core list)	3	
CVEG 4890 Fundamentals of Engineering Seminar (Sp, Fa)	0	
CVEG 4513 Construction Management (Sp, Fa)		3
CVEG 4243 Environmental Engineering Design (Sp, Fa)		3
Civil Engineering Design Elective		2

Civil Engineering Electives*	6	
Social Science Elective (from University/State Core List)	3	
Year Total:	17	17
<hr/>		
Total Units in Sequence:		128

\* See the elective list among the program requirements.

## Honors Program Requirements

Students enrolled in the Honors College who are to receive the Bachelor of Science in Civil Engineering must complete a minimum of 12 hours of honors credit. At least 6 hours must be completed within the Civil Engineering program including at least 3 hours resulting in an Honors Thesis. The CVEG honors courses are acceptable as engineering electives and in some cases may be substituted for required courses. The following Civil Engineering courses are offered for honors credit: CVEG 491VH Honors Studies in Geotechnical Engineering (Irregular), CVEG 492VH Honors Studies in Environmental Engineering (Irregular), CVEG 493VH Honors Studies in Structural Engineering (Irregular), CVEG 494VH Honors Studies in Transportation Engineering (Irregular), and CVEG 4983H Honors Undergraduate Thesis (Irregular).

# Computer Science and Computer Engineering (CSCE)

## Faculty

**David Andrews**, Professor, Thomas Mullins Chair of Computer Science and Computer Engineering

**M. Gordon Beavers**, Associate Professor

**Christophe Bobda**, Professor

**Jia Di**, Professor, 21st Century Research Leadership Chair

**Michael S. Gashler**, Assistant Professor

**John Michael Gauch**, Professor

**Susan E. Gauch**, Professor

**Miaoqing Huang**, Associate Professor

**Qinghua Li**, Assistant Professor

**Wing Ning Li**, Professor

**Xiaoqing "Frank" Liu**, Professor, Rodger S. Kline Leadership Chair

**Rida Moustafa**, Visiting Lecturer

**Brajendra Nath Panda**, Professor

**Pat Parkerson**, Associate Professor

**Matthew J. Patitz**, Assistant Professor

**Yarui Peng**, Assistant Professor

**Dale R. Thompson**, Associate Professor

**Xintao Wu**, Professor, Charles D. Morgan/Axiom Graduate Research Chair

Xiaoqing "Frank" Liu

Head of the Department

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The faculty of the Computer Science and Computer Engineering Department is engaged in multidisciplinary academic research, course offerings, and student projects in areas such as: networking, data security, low power chip design, Web search, embedded systems, and graphics.

The educational objectives of the department are to produce graduates who are recruited in a competitive market and make valuable

contributions to a wide variety of industries, particularly in computer and information technology; succeed in graduate or professional studies; pursue life-long learning and continued professional development; and undertake leadership roles in their profession, in their communities, and in the global society.

## Accreditations

The B.S. in Computer Engineering is accredited by the Engineering Accreditation Commission of ABET ([www.ABET.org](http://www.ABET.org)). The B.S. in Computer Science is accredited by the Computing Accreditation Commission of ABET ([www.ABET.org](http://www.ABET.org)) (<http://www.abet.org>)

## Requirements for B.S. in Computer Engineering

The computer engineering degree has required sequences of courses in both hardware and software aspects of computer applications and design. Since almost all of today's complex systems encompass hardware and software elements, computer engineering graduates must acquire the skills required to design, build, and test complex digital systems. At the advanced level, students are exposed to hands-on experience with open-ended problems with opportunities for research and design.

Humanities and social science electives are selected from the University Core Requirements listed in the Catalog of Studies. To satisfy the University Core, all CSCE students are required to take the following 18 hours of humanities/social science courses:

PHIL 3103	Ethics and the Professions (Sp, Su, Fa)	3
Fine Arts from Category "A"		3
U.S. History or Government		3
Social Science		9

The Undergraduate Handbook has a list of approved basic science, mathematics, and technical electives. Any course not included in these lists requires faculty approval.

The Bachelor of Arts in Computer Science degree has the same educational objectives as the Bachelor of Science degree. However, the course requirements differ greatly to allow students to double major or pursue other interests.

## Degree Program Changes

Students must meet all requirements of their degree programs and are expected to keep informed concerning current regulations, policies, and program requirements in their fields of study. Changes made in the curriculum at a level beyond that at which a student is enrolled might become graduation requirements for that student. Changes made in the curriculum at a level lower than the one at which a student is enrolled are not required of that student. Students should consult their departmental adviser for additional information.

## Computer Engineering B.S.Cmp.E. Eight-Semester Degree Program

The following sections contain the list of courses required for the Bachelor of Science in Computer Engineering (B.S.Cmp.E.) with a suggested sequence below.

Not all courses are offered every semester, so students who deviate from the suggested sequence must pay careful attention to course scheduling and course prerequisites. Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73)

in the Academic Regulations chapter for university requirements of the program.

First Year	Units	
	Fall	Spring
GNEG 1111 Introduction to Engineering I (Sp, Fa)	1	
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	4	
PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa)	4	
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa)	3	
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
GNEG 1121 Introduction to Engineering II (Sp, Fa)		1
MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa)		4
History/Government Elective		3
PHYS 2074 University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa)		4
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
Year Total:	15	15

Second Year	Units	
	Fall	Spring
CSCE 2004 Programming Foundations I (Sp, Fa)	4	
CSCE 2114 Digital Design (Sp, Fa)	4	
MATH 2574 Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa)	4	
MATH 2603 Discrete Mathematics (Sp, Su, Fa)	3	
CSCE 2014 Programming Foundations II (Sp, Fa)		4
CSCE 2214 Computer Organization (Sp, Fa)		4
MATH 2584 Elementary Differential Equations (Sp, Su, Fa)		4
Two Social Science Electives		6
Year Total:	15	18

Third Year	Units	
	Fall	Spring
CSCE 3193 Programming Paradigms (Sp, Fa)	3	
CSCE 3613 Operating Systems (Sp, Fa)	3	
CSCE 3953 System Synthesis and Modeling (Fa)	3	
INEG 2313 Applied Probability and Statistics for Engineers I (Sp, Fa)	3	
Basic Science Elective With Lab*	4	
CSCE 3513 Software Engineering (Sp, Fa)		3
CSCE Elective		3
ELEG 3933 Circuits & Electronics (Sp)		3
PHIL 3103 Ethics and the Professions (Sp, Su, Fa)		3
Free Elective		3
Year Total:	16	15

Fourth Year	Units	
	Fall	Spring
CSCE 4561 Capstone I (Fa)	1	
CSCE 4114 Embedded Systems (Fa)	4	
Two CSCE Electives	6	
Fine Arts Elective	3	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3	
CSCE 4213 Computer Architecture (Sp)		3
CSCE 4963 Capstone II (Sp)		3
CSCE Elective		3
Free elective		3
Social Science Elective		3
Year Total:	17	15
Total Units in Sequence:		126

## Requirements for B.S. in Computer Science

A degree in computer science provides a wide variety of career choices. Computer science graduates can design, implement, or manage computer systems, as well as adapt computers to new applications. Computer science core courses include the fundamentals of programming concepts, data structures, operating systems, algorithms, formal languages, and database management systems.

The Bachelor of Science programs in Computer Engineering and Computer Science culminate in a capstone project completed in two consecutive semesters. In the first semester, students form teams and develop a project proposal. In the second semester, students develop, implement, and present the final project.

Humanities and social science electives are selected from the University Core Requirements listed in the Catalog of Studies. To satisfy the University Core, all CSCE students are required to take the following 18 hours of humanities/social science courses:

PHIL 3103 Ethics and the Professions (Sp, Su, Fa)	3
Fine Arts From Category "A"	3
U.S. History or Government	3
Social Science	9

The Undergraduate Handbook has a list of approved basic science, mathematics, and technical electives. Any course not included in these lists requires faculty approval.

## Degree Program Changes

Students must meet all requirements of their degree programs and are expected to keep informed concerning current regulations, policies, and program requirements in their fields of study. Changes made in the curriculum at a level beyond that at which a student is enrolled might become graduation requirements for that student. Changes made in the curriculum at a level lower than the one at which a student is enrolled are not required of that student. Students should consult their departmental adviser for additional information.

## Computer Science B.S. Eight-Semester Degree Program

The following sections contain the list of courses required for the Bachelor of Science in Computer Science (B.S.) degrees with a suggested sequence below.

Not all courses are offered every semester, so students who deviate from the suggested sequence must pay careful attention to course scheduling and course prerequisites. Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program.

First Year	Units	
	Fall	Spring
GNEG 1111 Introduction to Engineering I (Sp, Fa)	1	
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa)	3	
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	4	
PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa)	4	
GNEG 1121 Introduction to Engineering II (Sp, Fa)		1
MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa)		4
Freshman Science Elective*		4
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
History/Government Elective		3
Year Total:	15	15

Second Year	Units	
	Fall	Spring
CSCE 2004 Programming Foundations I (Sp, Fa)	4	
CSCE 2114 Digital Design (Sp, Fa)	4	
MATH 2603 Discrete Mathematics (Sp, Su, Fa)	3	
Basic Science Elective With Lab	4	
Social Science Elective	3	
CSCE 2014 Programming Foundations II (Sp, Fa)		4
CSCE 2214 Computer Organization (Sp, Fa)		4
MATH 3103 Combinatorial and Discrete Mathematics (Sp, Fa)		3
Fine Arts Elective		3
Social Science Elective		3
Year Total:	18	17

Third Year	Units	
	Fall	Spring
CSCE 3193 Programming Paradigms (Sp, Fa)	3	
CSCE 3613 Operating Systems (Sp, Fa)	3	
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)	3	
MATH 3083 Linear Algebra (Sp, Su, Fa)	3	

INEG 2313 Applied Probability and Statistics for Engineers I (Sp, Fa)	3	
CSCE 3513 Software Engineering (Sp, Fa)		3
CSCE 4523 Database Management Systems (Sp)		3
CSCE Elective		3
PHIL 3103 Ethics and the Professions (Sp, Su, Fa)		3
Free Elective		3
Year Total:	15	15

Fourth Year	Units	
	Fall	Spring
CSCE 4133 Algorithms (Fa)	3	
CSCE 4561 Capstone I (Fa)	1	
Two CSCE Electives	6	
Two Free Electives	6	
CSCE 4323 Formal Languages and Computability (Sp)		3
CSCE 4963 Capstone II (Sp)		3
CSCE Elective		3
Free Elective		3
Social Science Elective		3
Year Total:	16	15

Total Units in Sequence: 126

\* Choose between PHYS 2074 University Physics II or CHEM 1123/CHEM 1121L University Chemistry II and lab

## Requirements for B.A. in Computer Science

The Bachelor of Arts in Computer Science degree has the same educational objectives as the Bachelor of Science degree. However, the course requirements differ greatly to allow students to double major or pursue other interests.

Humanities and social science electives are selected from the University Core Requirements listed in the Catalog of Studies. To satisfy the University Core, all CSCE students are required to take the following 18 hours of humanities/social science courses:

PHIL 3103 Ethics and the Professions (Sp, Su, Fa)	3
Fine Arts from Category "A"	3
U.S. History or Government	3
Social Science	9

The Undergraduate Handbook has a list of approved basic science, mathematics, and technical electives. Any course not included in these lists requires faculty approval.

The Bachelor of Arts in Computer Science degree has the same educational objectives as the Bachelor of Science degree. However, the course requirements differ greatly to allow students to double major or pursue other interests.

## Degree Program Changes

Students must meet all requirements of their degree programs and are expected to keep informed concerning current regulations, policies,



and program requirements in their fields of study. Changes made in the curriculum at a level beyond that at which a student is enrolled might become graduation requirements for that student. Changes made in the curriculum at a level lower than the one at which a student is enrolled are not required of that student. Students should consult their departmental adviser for additional information.

## Computer Science B.A. Eight-Semester Degree Program

The following sections contain the list of courses required for the Bachelor of Arts in Computer Science (B.A.) degrees with a suggested sequence below.

Not all courses are offered every semester, so students who deviate from the suggested sequence must pay careful attention to course scheduling and course prerequisites. Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	4	
Social Science Elective	3	
Select one of the following:	3	
HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)		
HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)		
PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)		
CSCS 2004 Programming Foundations I (Sp, Fa)		4
CSCS 2114 Digital Design (Sp, Fa)		4
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
MATH 2603C Discrete Mathematics (Sp, Su, Fa)		3
Year Total:	13	14

Second Year	Units	
	Fall	Spring
CSCS 2014 Programming Foundations II (Sp, Fa)	4	
CSCS 2214 Computer Organization (Sp, Fa)	4	
Social Science Elective (from University Core)	3	
Fine Arts	3	
Free Elective	3	
CSCS 3193 Programming Paradigms (Sp, Fa)		3
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa)		3
STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa)		3
Two Free Electives		6
Year Total:	17	15

Third Year	Units	
	Fall	Spring
CSCS elective (3000-level or higher)	3	
ENGL 3053 Technical and Report Writing (ACTS Equivalency = ENGL 2023) (Sp, Fa)	3	
Science Elective (from University Core)	4	
Two Free Elective	6	
CSCS elective (3000-level or higher)		3
PHIL 3103 Ethics and the Professions (Sp, Su, Fa)		3
Social Science elective		3
Two Free electives		5
Year Total:	16	14

Fourth Year	Units	
	Fall	Spring
Two CSCS electives (3000 level or higher)	6	
Science Elective (from University Core)	4	
Two Free electives (3000 level or higher)	6	
Two CSCS electives (3000-level or higher)		6
Three Free electives (3000-level or Higher)		9
Year Total:	16	15

Total Units in Sequence: 120

## Requirements for a Minor in Computer Science:

CSCS 2004	Programming Foundations I (Sp, Fa)	4
CSCS 2014	Programming Foundations II (Sp, Fa)	4
CSCS 3193	Programming Paradigms (Sp, Fa)	3
Three additional CSCS courses numbered above 2000.		9
Total Hours		20

## Requirements for Departmental Honors in Computer Science and Computer Engineering

The Honors Program in Computer Science and Computer Engineering is designed for the superior student and is intended to help the student develop a more comprehensive view of Computer Science and Computer Engineering. The program provides a vehicle for the recognition of achievements beyond the usual course of study. Higher degree distinctions are recommended only in truly exceptional cases and are based upon the candidate's whole program of honors studies. A minimum of 12 hours of honors coursework is required.

The following requirements are necessary for graduation with honors in either the Computer Engineering or Computer Science Bachelor of Science program:

1. The candidate must satisfy the requirements set forth by the College of Engineering.
2. The student must obtain at least a 3.50 grade-point average in required Computer Engineering and/or Computer Science courses.

- The student must complete 6 hours of Honors credit in the major, which includes 3 hours of Honors Thesis taken as successive semesters of CSCE 491VH and 3 hours of CSCE coursework.

## Electrical Engineering (ELEG) Faculty

**Simon S. Ang**, Professor  
**Juan Carlos Balda**, University Professor, Twenty-First Century Leadership Chair in Engineering  
**Zhong Chen**, Assistant Professor  
**Samir M. El-Ghazaly**, Distinguished Professor  
**Magda O. El-Shenawee**, Professor  
**Michael D. Glover**, Research Assistant Professor  
**Baohua Li**, Research Assistant Professor  
**Omar Manasreh**, Professor  
**Alan Mantooh**, Distinguished Professor, Twenty-First Century Chair in Mixed-Signal IC Design and CAD  
**Terry W. Martin**, Professor  
**Roy A. McCann**, Professor  
**Aboozar Mosleh**, Adunct Assistant Professor  
**Hameed A. Naseem**, University Professor  
**James M. Rankin**, Professor  
**Robert F. Saunders**, Instructor  
**Scott G. Smith**  
**Silke Spiesshoefer**, Clinical Assistant Professor  
**Morgan Ware**, Assistant Professor  
**Jingxian Wu**, Associate Professor  
**Camilo Younes Velosa**, Visiting Professor  
**Fisher Yu**, Associate Professor  
**Yue Zhao**, Assistant Professor

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Electrical engineering is a professional engineering discipline that in its broader sense covers the study and application of electricity, electronics and electromagnetism. Electrical engineers are in charge of designing and utilizing electrical and electronic components, integrated circuits and computer chips, and electronic assemblies to benefit mankind. Fields of electrical engineering include analog and mixed-signal circuit design/test, biomedical, communications, computer hardware and digital circuit design, control systems, electronic packaging, embedded systems design, microwave and radar engineering, nanophotonics, nanotechnology/microelectronics/optoelectronics, pattern recognition and artificial intelligence, power electronics, and renewable energy/power.

The electrical engineering graduate is at the forefront of technologies leading to accelerated use of electric power, applications of real time embedded control systems for smart highways, smart vehicles and smart gadgets, global communications, the dominating influence of the computer and electronics on modern society, the use of electronic equipment for medical diagnosis, the use of wireless chemical and biological nanosensors for hazard detection, the miniaturization of electronics, microwave and optical technology for national defense, and a host of other developments. Therefore, the use of electrical and electronic equipment has spread into such diverse areas as agricultural production, automotives, computer hardware and networks, health care, information technology, manufacturing, marketing, recreation, renewable

energy resources, outer space and underwater exploration, transportation, and many others. As a result, electrical engineering is the largest of all scientific disciplines and assures a continuing demand for electrical engineering graduates throughout private industry and government.

The University of Arkansas, the state land-grant university, is a nationally competitive, student-centered, research university serving Arkansas and the world. As such, the department's mission is education, research, and service. Hence, the electrical engineering program is designed to offer a high-quality course of instruction involving classroom, laboratory, and extracurricular activities that results in graduates qualified and prepared to meet the demands of a professional career in the present and future work places as well as to assume a responsible role of leadership in a complex technological society.

The department also actively participates in the Honors Program to challenge superior students with a more in-depth academic program and research experience. The Honors program enables students to work more closely with faculty members and other students in a team environment. Please see the requirements given below.

The educational mission of the department is conducted through both the undergraduate and graduate programs.

## Graduate Program in Electrical Engineering

The graduate program offers a Master of Science degree in Electrical Engineering (on campus and online) and a Doctor of Philosophy degree in Engineering. The graduate program provides additional instruction and hands-on experience beyond the undergraduate level, and produces graduates who are prepared to promptly address critical issues and assume advanced positions in the profession, including management, design, teaching, research and development.

The research mission of the department is conducted mainly through the graduate program. Internal and external funded research projects serve to:

- Discover new knowledge, address technical problems, and develop new electrical/electronic technologies;
- Provide the tools and resources which keep the faculty at the cutting edge of electrical engineering;
- Provide financial support for graduate students and gifted undergraduate students; and
- Improve the quality of life for citizens of Arkansas and the world.

The graduate program supports the undergraduate program by giving top undergraduate students access to research laboratories with state-of-the-art equipment and software. Topics covered in graduate courses often migrate into senior undergraduate technical elective courses and eventually into required undergraduate courses.

## Departmental Service Mission

Faculty, administrators, and staff work to provide the education necessary to establish the best foundation for electrical engineering students at all degree levels, and prepare them to be competitive local and national leaders, skillful at undertaking the current and future challenges facing our world. Everyone is encouraged to provide services to both the community and the profession. Hence, they are active in local, state, national, and international professional and service organizations, as well as public and private schools involving grades K-12

## Degree Program Changes

A student must meet all requirements of the degree program and is expected to stay informed concerning current regulations, policies, and program requirements in a chosen field of study. Changes made in the electrical engineering curriculum at a level beyond that at which a student is enrolled may become graduation requirements for that student. Changes made in the curriculum at a level lower than the one at which a student is enrolled are not normally required for that student. Students should consult their adviser for additional information.

## Potential Minors

Although ELEG students can pursue any minor they desire, there are several minors that require a minimal number of extra courses, such as Computer Science, Mathematics, Microelectronics-Photonics, Physics, etc. Students are advised to review the specific rules pertaining to the minor of interest in the section of the UA Catalog of Studies corresponding to the department granting that minor.

## Undergraduate Program in Electrical Engineering

The educational objectives for the undergraduate program, which leads to a Bachelor of Science degree in electrical engineering, are to produce graduates who:

1. Are recruited in a competitive market and valued as reliable and competent employees by a wide variety of industries, in particular, electrical and computer engineering industries;
2. Succeed, if pursued, in graduate studies such as engineering, science, law, medicine, business, and other professions;
3. Understand the need for life-long learning and continued professional development for a successful and rewarding career; and
4. Accept responsibility for leadership roles in their profession, in their communities, and in the global society.

Therefore, the electrical engineering curriculum is designed to provide students with knowledge of scientific principles and methods of engineering analysis to form a solid foundation for a career in design, research and development, manufacturing and processing, measurement and characterization, or management. Students progressively build their design experience throughout the curriculum and demonstrate this ability in the senior electrical engineering design laboratories. The curriculum also introduces students to subjects in the humanities, social sciences, and ethics so they may better understand the interaction of technology and society.

The electrical engineering curriculum is divided into three phases. The first year concentrates on the development of a sound understanding of basic sciences and mathematics. The second and third years further develop scientific principles and cover the basic core of electrical engineering. The fourth year is composed primarily of senior-level elective courses. At this time, the students in consultation with their advisers may choose classes related to one or more of the major areas of electrical engineering detailed (e.g., analog and mixed-signal circuit design/test, biomedical, communications, computer hardware and digital circuit design, control systems, electronic packaging, embedded systems design, microwave and radar engineering, nanophotonics, nanotechnology/microelectronics/optoelectronics, pattern recognition and artificial intelligence, power electronics, and renewable energy and power). This final year permits the student to tailor a program suited to

her or his individual career objectives. The graduation requirement in electrical engineering is 125 semester hours as given below.

## Recommended Technical Studies

Students in electrical engineering are required to complete 21 semester hours of technical electives of which a minimum of 9 semester hours must be 4000- or 5000-level electrical engineering elective courses. A student may select the remaining 12 semester hours from 4000- or 5000-level electrical engineering elective courses or upper-division technical courses in mathematics, engineering, and the sciences with the approval of an adviser. One of these courses may be an approved Math/Science Elective and another may be an approved Engineering Science Elective. History and social science courses taught by Math and Science departments are not eligible for technical elective credit. Not more than 6 semester hours total of ELEG 488V and ELEG 400VH may be credited toward technical electives. Students who have taken full-time co-op experiences under GNEG 3811, and whose grades in these courses were A or B, may get credit for not more than three hours of non-ELEG technical electives if the work performed is of comparable quality to a technical elective; consult with the Department Co-op Coordinator. Descriptions of all electrical engineering courses are in the Course Descriptions chapter of this Catalog of Studies. The schedule of technical electives offered in a given semester is determined the previous semester since the selection depends on a number of varying factors such as student interest in a particular topic, the importance of a particular technology for the student's professional career, and teaching faculty availability.

## Electrical Engineering B.S.E.E. Eight-Semester Degree Program

The following section contains the list of courses required for the Bachelor of Science in Electrical Engineering and a suggested eight-semester sequence. See the Eight-Semester Degree Policy (p. 73) for more details. Not all courses are offered every semester, so students who deviate from the suggested sequence must pay careful attention to course scheduling and course prerequisites.

First Year	Units	
	Fall	Spring
GNEG 1111 Introduction to Engineering I (Sp, Fa)	1	
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	4	
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa)	3	
PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa)	4	
GNEG 1121 Introduction to Engineering II (Sp, Fa)		1
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa)		4
Select one of the following:		3
HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)		
HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)		

PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)		
Freshman Science Elective II*		4
Year Total:	15	15

Second Year	Units	
	Fall	Spring
ELEG 2104 Electric Circuits I (Fa)	4	
ELEG 2904 Digital Design (Fa)	4	
Sophomore Science Elective**	4	
MATH 2584 Elementary Differential Equations (Sp, Su, Fa)	4	
CSCE 2004 Programming Foundations I (Sp, Fa)		4
ELEG 2114 Electric Circuits II (Sp)		4
MATH 2574 Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa)		4
Humanities Elective (from University/State Core List)		3
Year Total:	16	15

Third Year	Units	
	Fall	Spring
ELEG 3124 System & Signal Analysis (Fa)	4	
ELEG 3214 Electronics I (Fa)	4	
ELEG 3924 Microprocessor Systems Design (Fa)	4	
ELEG 3704 Applied Electromagnetics (Fa)	4	
ELEG 3143 Probability & Stochastic Processes (Sp)		3
ELEG 3224 Electronics II (Sp)		4
ELEG 3304 Energy Systems (Sp)		4
Social Science Elective (from University/State Core List)		3
Math/Science/Technical Elective		3
Year Total:	16	17

Fourth Year	Units	
	Fall	Spring
Engineering Science/Technical Elective***	3	
Two Electrical Engineering Technical Elective****	6	
ELEG 4063 Electrical Engineering Design I (Sp, Fa)	3	
Select one of the following:	3	
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)		
ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)		
ECON 2143 Basic Economics: Theory and Practice (Sp, Su, Fa)		
Electrical Engineering Technical Elective****	3	
ELEG 4071 Electrical Engineering Design II (Sp, Fa)		1
Two Technical Elective	6	
Social Science Elective (from University/State Core List)	3	

Fine Arts Elective (from University Core)		3
Year Total:	15	16
Total Units in Sequence:		125

\* Freshman Science Elective -CHEM 1123/CHEM 1121 University Chemistry II, CHEM 1133/CHEM 1131L Chemistry for Engineers II or PHYS 2074 University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa)

\*\* If CHEM 1123/CHEM 1121 University Chemistry II, or CHEM 1133/CHEM 1131L Chemistry for Engineers II was taken for Freshman Science Elective, then PHYS 2074 University Physics II If PHYS 2074 University Physics II was taken for the Freshman Science Elective, then CHEM 1123/CHEM 1121 University Chemistry II, CHEM 1133/CHEM 1131L Chemistry for Engineers II or BIOL 1543/BIOL 1541L Principles of Biology or BIOL 2213/BIOL 2211L Human Physiology, PHYS 2094 University Physics III

\*\*\* Engineering Science/Technical Elective: MEEG 2103 Introduction to Machine Analysis (Sp, Su), MEEG 2303 Introduction to Materials (Sp, Fa), MEEG 2403 Thermodynamics (Sp, Su, Fa), CHEG 2313 Thermodynamics of Single-Component Systems (Sp, Su, Fa), or another Technical Elective

\*\*\*\* CSCE 4114, CSCE 4613, CSCE 4233 are approved ELEG Technical Electives for students pursuing a dual ELEG / CSCE undergraduate degree.

Students should become very familiar with the Academic Regulations chapter for university requirements that apply to the electrical engineering program as well as the College of Engineering requirements (in particular the "D rule" and the "Transfer of Credit" for courses taken at another institution). In addition to these graduation requirements, candidates for an electrical engineering degree must have earned a grade-point average of no less than 2.00 on all ELEG courses.

## Electrical Engineering Honors Program

To graduate with Honors in electrical engineering, students must be a member of the Honors College, have a minimum cumulative GPA of 3.50, and complete a minimum of 12 hours of honors credit of which 6 hours must be Electrical Engineering Honors courses that include the following: ELEG 4063H Honors Electrical Engineering Design I (Sp, Fa), ELEG 4071H Honors Electrical Engineering Design II (Sp, Fa), and ELEG 400VH Honors Senior Thesis (Sp, Su, Fa). Special problems credit hours (ELEG 488V) will not be counted in the requirement for graduation with Honors in Electrical Engineering.

### Electrical Engineering Honors Courses:

ELEG 3124H, ELEG 3143H, ELEG 3214H, ELEG 3224H, ELEG 3304H, ELEG 3704H, ELEG 3924H: Required ELEG junior courses with Honors section (all junior required courses include honors sections).

ELEG 4061H Honors Electrical Engineering Design I (Sp, Fa)

ELEG 4073H Honors Electrical Engineering Design II

ELEG 400VH Honors Senior Thesis (Sp, Su, Fa)

ELEG 4203H, ELEG 4233H, ELEG 4403H, ELEG 4503H,

ELEG 4703H, ELEG 4783H, ELEG 4914H, ELEG 4963H: ELEG technical elective courses that have an Honors section

(Please check the offering of these Honors Sections for a particular semester).

ELEG 5000 or above: Any graduate level course.

## Industrial Engineering (INEG)

### Faculty

**Richard Cassady**, Professor

**Wanpracha Art Chaovalitwongse**, Professor, 21st Century Leadership Chair in Engineering

**Justin Robert Chimka**, Associate Professor

**John R. English**, Professor, Irma F. and Raymond F. Giffels Endowed Chair in Engineering

**Joseph Patrick Geunes**, Professor

**Haitao Liao**, Professor, Hefley Professor in Logistics and Entrepreneurship

**Ashlea R. Milburn**, Assistant Professor

**Heather Nachtmann**, Professor

**Kim LaScola Needy**, Professor

**Sarah Nurre**, Assistant Professor

**Gregory S. Parnell**, Research Professor

**Kim Petrone**, Instructor

**Harry A. Pierson**, Assistant Professor

**Edward A. Pohl**, Professor, Twenty-First Century Professorship in Engineering

**Letitia Pohl**, Clinical Assistant Professor

**Chase E. Rainwater**, Associate Professor, John L. Imhoff Chair in Industrial Engineering

**Manuel D. Rossetti**, Professor

**Kelly M. Sullivan**, Assistant Professor

**John A. White Jr.**, Distinguished Professor

**Shengfan Zhang**, Assistant Professor

Ed Pohl

Head of the Department

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The mission of the industrial engineering department at the University of Arkansas is to be a nationally competitive, student-centered industrial engineering program serving Arkansas and the world through undergraduate and graduate studies and leading-edge research programs.

Industrial engineers are concerned with improving organized activity. The physical arrangement of people, equipment, and material significantly influences the effectiveness of any organization – whether the organization is industrial, governmental, or commercial.

Today's industrial engineers develop applications of new processing automation and control technology; install data processing systems, performance measures and standards, job evaluation and wage and salary programs; research new products and product applications; devise ways to improve productivity through application of technology and human factors; select operating processes and methods to accomplish a given task using proper tools and equipment; design facilities, management systems, operations procedures, storage systems; improve allocation of resources, planning and control systems for distribution of goods and services, production, inventory, quality and plant maintenance; enhance plant environment and the quality of working life; evaluate reliability and quality performance; implement office systems, procedures, and policies;

analyze complex business problems through operations research; conduct long-range organization studies, plant location surveys, system effectiveness studies; and study potential markets for goods and services, raw material sources, labor supply, energy resources, financing and taxes.

Industrial engineers integrate engineering skills with mathematics and computer science tools, providing systematic ways to maximize productivity and quality while minimizing time and cost.

The goal of the Industrial Engineering Undergraduate Program at the University of Arkansas is to prepare men and women for professional careers and graduate studies in Industrial Engineering. We provide a foundation in mathematics, science, humanities and social sciences, engineering science, and engineering design to produce Industrial Engineers with the intellectual, technical, and professional competence to develop, implement, and manage industrial engineering solutions to complex problems in industry, government, and society.

The program's objectives have been developed to address the needs of the industrial engineering constituencies and to be consistent with and supportive of the department's mission and programmatic goals. The IE program educational objectives represent and describe the expected accomplishments of graduates resulting from participation within the program within the first few years after graduation. The program's objectives have been developed to address the needs of departmental constituencies and to be consistent with and support the mission and programmatic goals.

Within 3-5 years of graduation, graduates of the U of A undergraduate program in industrial engineering will have:

1. Successfully applied core industrial engineering knowledge and skills for industrial or public sector organizations.
2. Successfully pursued advanced professional degrees, graduate studies in industrial engineering, professional training, or engineering certification.
3. Demonstrated professional and intellectual growth as managers and leaders in industrial engineering, society, and their communities.

### Requirements for B.S. in Industrial Engineering

The total graduation requirement in industrial engineering is 128 hours. For further information please visit the departmental website (<http://www.ineg.uark.edu/>).

### Technical Electives

The purpose of technical electives is to provide students with the opportunity to expand their education within a particular area of interest. The approved list of technical electives is available in the industrial engineering department. At least 12 hours must be selected from INEG courses.

### Humanities/Social Science Electives

Although any elective included on the approved University Core humanities/social science list may be selected, PSYC 2003 General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa) is recommended for industrial engineers.

## Science Electives

The approved list of science electives is available in the industrial engineering departmental office.

### Technical Elective Requirements

Each student is responsible for his or her technical elective program. Students may seek specific advice on technical elective selections from their advisor. Courses satisfying technical elective requirements cannot fulfill more than one industrial engineering degree requirement.

A minimum of 18 credit hours from the approved technical elective course list must be taken to satisfy technical elective requirements within the Industrial Engineering program. At least 12 of these 18 credit hours must be chosen from INEG courses. No more than 3 of these credits may be based in individual/independent study, no more than 3 of these credits may be based in honors thesis, and no more than 3 of these credits may be based in cooperative education.

### Approved Technical Elective Course List

1. Any BENG, BIOL, BMEG, CHEG, CHEM, CVEG, CSCE, ELEG, GNEG, INEG, MATH, MEEG, and PHYS course that is at the 3000 level or above and not required for the BSIE is approved. Exceptions are:
  - a. GNEG 3801 is not approved.
  - b. GNEG 3811 is approved only if the student has completed at least three semesters of GNEG 3811.
  - c. CVEG 4513 is not approved if the student is also seeking technical elective credit for INEG 4443.
  - d. MATH 3133 is not approved.
  - e. PHYS 3603, PHYS 4103, and PHYS 4203 are not approved.
2. Courses at the 3000 level or above that are explicitly listed (not part of a blanket statement like "... 3000-to-4000-level ...") in the Catalog of Studies under Minors for Non-Business Students (p. 417) are approved. Exceptions are:
  - a. ISYS 3393 is not approved if the student is also seeking technical elective credit for INEG 4683
3. Courses at the 3000 level or above that are explicitly listed on the Sustainability Minor Courses website (<http://sustainability.uark.edu/academics/minor>) under Natural, Managed, or Built Systems are approved.
4. Additional approved courses are CSCE 2014, EXSC 3153, and EXSC 3353.

## Industrial Engineering B.S.I.E. Eight-Semester Degree Program

The following section contains the list of courses required for the Bachelor of Science in Industrial Engineering degree and a suggested sequence. Not all courses are offered every semester, so students who deviate from the suggested sequence must pay careful attention to course scheduling and course prerequisites. Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program.

At least 12 hours of technical electives must be selected from INEG courses.

First Year	Units	
	Fall	Spring
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	4	
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa)	3	
PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa)	4	
GNEG 1111 Introduction to Engineering I (Sp, Fa)	1	
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa)		4
Freshman Science Elective <sup>1,5</sup>		4
Select one of the following:		3
HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)		
HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)		
PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)		
GNEG 1121 Introduction to Engineering II (Sp, Fa)		1
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
Year Total:	15	15

Second Year	Units	
	Fall	Spring
INEG 2001 Industrial Engineering Seminar (Fa)	1	
INEG 2103 Introduction to Industrial Engineering (Fa)	3	
INEG 2313 Applied Probability and Statistics for Engineers I (Sp, Fa)	3	
INEG 2413 Engineering Economic Analysis (Sp, Fa)	3	
MATH 2574 Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa)	4	
Science Requirement <sup>1,2</sup>	3	
INEG 2403 Industrial Cost Analysis (Sp)		3
INEG 2333 Applied Probability and Statistics for Engineers II (Sp, Fa)		3
MATH 2584 Elementary Differential Equations (Sp, Su, Fa)		4
MEEG 2303 Introduction to Materials (Sp, Fa)		3
CSCE 2004 Programming Foundations I (Sp, Fa)		4
Year Total:	17	17

Third Year	Units	
	Fall	Spring
INEG 3623 Simulation (Fa)	3	
INEG 3713 Methods and Standards (Sp, Fa)	3	
MEEG 2003 Statics (Sp, Su, Fa)	3	
ELEG 3903 Electric Circuits and Machines (Sp, Fa)	3	

Fine Arts (from University/State Core List)	3	
Technical Elective <sup>3</sup>	3	
INEG 3613 Introduction to Operations Research (Sp)		3
INEG 3723 Ergonomics (Sp, Fa)		3
INEG 3513 Manufacturing Processes (Sp)		3
Selection one option from the following:		3
ECON 2143 Basic Economics: Theory and Practice (Sp, Su, Fa)		
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa) & ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa)		
Technical Elective		3
Year Total:	18	15

Fourth Year	Units	
	Fall	Spring
INEG 4433 Systems Engineering and Management (Fa)	3	
INEG 4553 Production Planning and Control (Fa)	3	
Two Technical Elective <sup>3</sup>	6	
Social Science (from University/State Core List) <sup>4</sup>	3	
INEG 4911 Industrial Engineering Capstone Experience I (Fa)	1	
INEG 4923 Industrial Engineering Capstone Experience II (Sp)		3
Two Technical Electives <sup>3</sup>		6
Humanities (from University/State Core List) <sup>4</sup>		3
Social Science (from University/State Core List) <sup>4</sup>		3
Year Total:	16	15

Total Units in Sequence: 128

<sup>1</sup> CHEM 1123/CHEM 1121L University Chemistry II or PHYS 2074 University Physics II

<sup>2</sup> If the student selected CHEM 1123/CHEM 1121L as their freshman science elective then this course must be PHYS 2074 University Physics II; otherwise see the approved list of IE science electives.

<sup>3</sup> The purpose of technical electives is to provide students with the opportunity to expand their education along lines of particular interest to them. The approved list of technical electives is available in the industrial engineering department. At least 12 hours must be selected from INEG courses.

<sup>4</sup> Although any elective included on the humanities/social science list may be selected, PSYC 2003 General Psychology is recommended for industrial engineers.

<sup>5</sup> The approved list of science electives is available in the industrial engineering departmental office.

## Mechanical Engineering (MEEG) Faculty

**David G. Albers Jr.**, Instructor

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**James Allen Davis**, Instructor

**John H. Hamilton**, Instructor

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**David Huitink**, Assistant Professor

**David C. Jensen**, Assistant Professor

**Ing-Chang Jong**, Professor

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**Ajay P. Malshe**, Distinguished Professor, Twenty-First Century Chair of Materials, Manufacturing and Integrated Systems

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**Paul Millett**, Assistant Professor

**Arun Nair**, Assistant Professor

**Darin W. Nutter**, Professor

**Monty Roberts**, Instructor

**Larry Roe**, Associate Professor, Twenty-First Century Endowed Chair

**Ashok Saxena**, Distinguished Professor, Twenty-First Century Endowed Chair in Materials Science and Engineering

**Zhenghui Sha**, Assistant Professor

**Steve Tung**, Professor

**Uchchukwu C. Wejinya**, Associate Professor

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Department of Mechanical Engineering website (<http://mechanical-engineering.uark.edu>)

The mechanical engineering program is designed to offer a high-quality course of instruction involving classroom, laboratory, and extracurricular activities that results in graduates who are qualified and prepared to meet the demands of a professional career in the present and future work place and be able to assume a responsible place of leadership in a complex technological society.

The mission of the department is three-fold:

- Teaching — To provide a high-quality educational experience for undergraduate and graduate students that enables them to become leaders in their chosen professions.
- Research — To create, explore, and develop innovations in engineering and science through undergraduate and graduate research.
- Service — To provide beneficial service to the local, state, national, and international industries and communities via educational, technical, entrepreneurial, and professional activities.

The courses offered in mechanical engineering provide the student with a broad understanding of fundamental scientific principles that serve as a background for many fields of specialization. The undergraduate curriculum is designed to stress basic engineering principles and to assist in developing creative thinking. Emphasis is placed on the science and art of designing machines and systems, of converting energy into useful forms, and developing a basic understanding of engineering mechanics. The undergraduate program leads to a Bachelor of Science degree in Mechanical Engineering; its educational objectives are to produce graduates who:

1. Effectively analyze and design mechanical systems and energy systems;
2. Contribute to the economic development of Arkansas and the world through the practice of mechanical engineering;
3. Meet or exceed the needs and expectations of mechanical engineering employers in industry, government, and private practice;
4. Engage in professional activities that promote the mechanical engineering profession and provide continuing self-development, and
5. Succeed in graduate study and research, if pursued.

## Requirements for B.S. in Mechanical Engineering

The Bachelor of Science in Mechanical Engineering curriculum includes, in addition to the required 15 hours of fine arts/humanities/social science elective courses, a total of 12 hours of technical and science electives. A student must select all electives with the approval of his or her adviser. The fine arts/humanities/social science electives must be selected from the University Core (p. 81) in the Academic Regulations chapter for university requirements for the program. It is expected that technical and science electives will be chosen to provide a coherent program within one or more areas of specialization or options available to mechanical engineers. Traditional areas of specialization are available in mechanical systems, materials, and energy systems. Other areas include pre-medical, management, and aerospace.

The first-year curriculum is essentially the same as prescribed for all engineering freshmen. Students entering the mechanical engineering program are required to take two, four hour laboratory based science electives. One of the four hour science electives must be PHYS 2074. The other four hour science elective must be chosen from one of the following:

ASTR 2003 & ASTR 2001L	Survey of the Universe (ACTS Equivalency = PHSC 1204 Lecture) (Sp, Su, Fa) and Survey of the Universe Laboratory (ACTS Equivalency = PHSC 1204 Lab) (Sp, Su, Fa)	4
BIOL 1543 & BIOL 1541L	Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa)	4
BIOL 2213 & BIOL 2211L	Human Physiology (ACTS Equivalency = BIOL 2414 Lecture) (Sp, Fa) and Human Physiology Laboratory (ACTS Equivalency = BIOL 2414 Lab) (Sp, Fa)	4
CHEM 1103 & CHEM 1101L	University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) and University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)	4

GEOS 1113 & GEOS 1111L	General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa) and General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)	4
PHYS 2094	University Physics III (Fa)	4
PHYS 3544	Optics (Fa)	4
PHYS 3603 & PHYS 360VL	Introduction to Modern Physics (Fa) and Modern Physics Laboratory (Sp)	4

## Technical/Science Electives

The purpose of technical/science electives is to provide students with the opportunity to expand their education along lines of particular interest to them.

As part of the mechanical engineering curriculum, students are required to complete 12 hours of technical/science electives. These electives can be categorized into three groups: Mechanical Engineering Electives, Other Engineering Electives, and Science-Math Electives.

1. Mechanical Engineering Electives. All mechanical engineering courses at or above the 4000 level not already required in the BSME curriculum are acceptable. Special Project courses, MEEG 491V, are allowed as electives only after approval in advance by the department head.
2. Other Engineering Electives. The rules governing the selection of engineering electives are:  
Engineering or Computer Science/Computer Engineering courses at or above the 3000 level not already required in the BSME curriculum are allowed as technical-science electives. Courses with content remedial to required courses are not allowed, and courses considered redundant to required courses are not allowed.
3. Science-Math Electives. The approved list of science and math courses accepted as technical-science electives is available in the Mechanical Engineering department office.

## Fine Arts/Humanities/Social Science Electives

Students must follow the University Core curriculum in selecting their fine arts and social science electives. Each student in the College of Engineering is required to complete 18 semester hours in the humanities and social sciences.

The courses taken must include:

HIST 2003 or HIST 2013 or PLSC 2003	History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa) History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa) American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)	3
ECON 2143 or ECON 2013	Basic Economics: Theory and Practice (Sp, Su, Fa) Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa)	3

The remaining four courses must be selected from an approved list. The humanities and social sciences chart should be used as a guide for selecting these courses.



## Mechanical Engineering B.S.M.E. Eight-Semester Degree Program

The following section contains the list of courses required for the Bachelor of Science in Mechanical Engineering degree and a suggested sequence. Not all courses are offered every semester, so students who deviate from the suggested sequence must pay careful attention to course scheduling and course prerequisites. Students interested in obtaining a sequencing schedule of courses may contact the Mechanical Engineering office.

Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program.

Either the science elective in the second semester of Year 1 or the science elective in the first semester of Year 2 must include PHYS 2074. Other science electives should be chosen from an approved list. See the mechanical engineering office.

First Year	Units	
	Fall	Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa)	3	
PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa)	4	
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	4	
GNEG 1111 Introduction to Engineering I (Sp, Fa)	1	
Select one of the following:	3	
HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa)		
HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa)		
PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa)		
GNEG 1121 Introduction to Engineering II (Sp, Fa)	1	
MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa)	4	
Freshman Science Elective (See Above)	4	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)	3	
Year Total:	15	15

Second Year	Units	
	Fall	Spring
MEEG 2100 Computer-aided Design Competency (Sp, Fa)	0	
Science Elective (See Note Above)	4	
MATH 2574 Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa)	4	
MEEG 2303 Introduction to Materials (Sp, Fa)	3	
MEEG 2003 Statics (Sp, Su, Fa)	3	
MATH 2584 Elementary Differential Equations (Sp, Su, Fa)	4	

MEEG 2013 Dynamics (Sp, Su, Fa)	3	
MEEG 2403 Thermodynamics (Sp, Su, Fa)	3	
MEEG 2703 Computer Methods in Mechanical Engineering (Sp, Su)	3	
MEEG 2103 Introduction to Machine Analysis (Sp, Su)	3	
Year Total:	14	16

Third Year	Units	
	Fall	Spring
MEEG 3013 Mechanics of Materials (Sp, Su, Fa)	3	
MEEG 3113 Machine Dynamics and Control (Su, Fa)	3	
MEEG 3202L Mechanical Engineering Laboratory I (Sp, Fa)	2	
MEEG 3503 Mechanics of Fluids (Su, Fa)	3	
ELEG 3903 Electric Circuits and Machines (Sp, Fa)	3	
ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa) or ECON 2143 Basic Economics: Theory and Practice (Sp, Su, Fa)	3	
MEEG 3212L Mechanical Engineering Laboratory II (Sp, Fa)		2
MEEG 4413 Heat Transfer (Sp, Su)		3
MEEG 4104 Machine Element Design (Sp, Su)		4
ELEG 3933 Circuits & Electronics (Sp)		3
Technical/Science Elective		3
PHIL 3103 Ethics and the Professions (Sp, Su, Fa)		3
Year Total:	17	18

Fourth Year	Units	
	Fall	Spring
MEEG 4132 Professional Engineering Practices (Sp, Fa)	2	
MEEG 4131 Creative Project Design I (Sp, Fa)	1	
MEEG 4202L Mechanical Engineering Laboratory III (Sp, Su, Fa)	2	
MEEG 4483 Thermal Systems Analysis and Design (Su, Fa)	3	
Technical/Science Elective	3	
Fine Arts Elective (from University/State Core List)	3	
MEEG 4133 Creative Project Design II (Sp, Fa)		3
Two Technical/Science Elective		6
Two Social Science Elective (from University/State Core List)		6
Year Total:	14	15

Total Units in Sequence: 124

## Ralph E. Martin Department of Chemical Engineering (CHEG) Faculty

Michael D. Ackerson, Associate Professor

**Robert Earl Babcock**, Professor  
**Robert R. Beitle Jr.**, Professor  
**Ed Clausen**, Professor  
**David M. Ford**, Professor, Ralph E. Martin Professorship in Chemical Engineering  
**Lauren F. Greenlee**, Assistant Professor, Louis Owen Professorship in Chemical Engineering  
**Jerry A. Havens**, Distinguished Professor  
**Jeremy J. Herman**, Clinical Assistant Professor  
**Christa Hestekin**, Associate Professor, Ansel and Virginia Condray Endowed Professorship in Chemical Engineering  
**Jamie A. Hestekin**, Professor, Jim L. Turpin Professorship in Chemical Engineering  
**YuPo Lin**, Adjunct Professor  
**Donald K. Roper**, Associate Professor, Charles W. Oxford Professorship in Emerging Technologies  
**Shannon Servoss**, Associate Professor  
**Tom O. Spicer III**, Professor, Maurice E. Barker Chair in Chemical Engineering  
**Greg Thoma**, Professor, Bates Teaching Professorship in Chemical Engineering  
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Chemical engineering deals with the creation, design, operation, and optimization of processes that derive practical benefits from chemical or physical changes principally involving chemical and biochemical reactions. The profession is quite broad and has traditionally provided the technology for: supplying energy and fuel; synthesizing materials such as plastics, chemicals, fertilizers, and pharmaceuticals; and managing environmental and safety concerns of physical and chemical processes. Some new applications of the principles of chemical engineering at nanoscales are being made in sustainable energy production and detection of gene mutations, protein configurations, and virus serotypes as well as thermal destruction of cancer cells.

Chemical engineers have a variety of traditional job opportunities in industries such as petroleum production and processing, chemical manufacturing, food processing, pharmaceutical production, and process equipment manufacturing. Job opportunities may involve research, development, design, manufacturing, sales, or teaching as professional activities. The chemical engineer can also move easily into environmental engineering, nuclear engineering, oceanography, biomedical engineering, pharmacology, law, medicine, or other multidisciplinary fields.

In chemical engineering, students obtain a broad foundation in chemistry, mathematics, physics, communication skills, economics, and the humanities. Courses in material and energy balances, thermodynamics, reaction kinetics, fluid mechanics, heat and mass transfer, process control, computer methods, safety, and design provide students with

the background and learning skills required of the practicing chemical engineer. The curriculum includes elective courses that enable a student to prepare for immediate employment or further study at the graduate level or the professional level, such as for medical school. The chemical engineering program also serves as an excellent preparation for dental, pharmacy, or law school.

The educational objective of the chemical engineering undergraduate program is to prepare students for careers and professional accomplishment after graduating, including:

- Successful practice as an engineer or in some other professional pursuit, including traditional or emerging fields of chemical engineering;
- Entrance and successful participation in a graduate or professional program (such as medical school) that continues their career development.

The program prepares graduates to achieve these educational objectives through development of their skills as outlined in our educational outcomes and taught in our curriculum.

By the time of graduation, students have the opportunity to attain the following educational outcomes:

- An ability to apply knowledge of mathematics, science, and engineering;
- An ability to design and conduct experiments, as well as analyze and interpret data;
- An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability;
- An ability to function on multidisciplinary teams;
- An ability to identify, formulate, and solve engineering problems;
- An understanding of professional and ethical responsibility;
- An ability to communicate effectively;
- The broad education necessary to understand the impact of engineering solutions in global, economic, environmental, and societal contexts;
- A recognition of the need for, and an ability to engage in, life-long learning;
- A knowledge of contemporary issues;
- An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

These outcomes are reinforced and demonstrated in a senior capstone safety, design, and laboratory course sequence.

## Requirements for B.S. in Chemical Engineering

Each student in chemical engineering is required to complete 128 hours of coursework including the 35-hour University Core. Each student in chemical engineering is also required to complete six semester hours of technical electives, three semester hours of Advanced Science electives, three semester hours of Chemical Engineering electives, and three semester hours of Advanced Science or Chemical Engineering electives. As discussed in the department's Undergraduate Advising Manual,

students can select elective courses to better prepare for employment or further study in areas such as:

- Biotechnology
- Biomedical engineering
- Environmental engineering
- Food process engineering
- Materials engineering
- Microelectronics
- Nanotechnology
- Nuclear engineering
- Pre-medicine
- Simulation and optimization

Additional opportunities are available to enhance the educational experience of students in these areas. Students should consult their academic adviser for recommendations.

## Chemical Engineering B.S.Ch.E. Eight-Semester Degree Program

The following section contains the list of courses required for the Bachelor of Science in Chemical Engineering degree. Not all courses are offered every semester, so students who deviate from the suggested sequence must pay careful attention to course scheduling and course prerequisites. Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (p. 73) in the Academic Regulations chapter for university requirements of the program. Entering freshmen will be required to participate in selected Freshman Engineering Student Services.

	Units	
	Fall	Spring
<b>First Year</b>		
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa)	4	
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa)	3	
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3	
PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa)	4	
GNEG 1111 Introduction to Engineering I (Sp, Fa)	1	
MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa)		4
CHEM 1123 University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa)		3
CHEM 1121L University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)		1
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)		3
PHYS 2074 University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa)		4
GNEG 1121 Introduction to Engineering II (Sp, Fa)		1
Year Total:	15	16

<b>Second Year</b>	Units	
	Fall	Spring
MATH 2574 Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa)	4	
CHEM 3603 Organic Chemistry I (Su, Fa)	3	
CHEM 3601L Organic Chemistry I Laboratory (Su, Fa)	1	
CHEG 2113 Introduction to Chemical Engineering I (Sp, Fa)	3	
HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa) or HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa) or PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa) Humanities or Social Science Elective	3	
MATH 2584 Elementary Differential Equations (Sp, Su, Fa)		4
CHEM 3613 Organic Chemistry II (Sp, Su)		3
CHEM 3611L Organic Chemistry II Laboratory (Sp, Su)		1
CHEG 2133 Fluid Mechanics (Sp, Su, Fa) or CHEG 2133H Honors Fluid Mechanics (Sp, Su, Fa)		3
CHEG 2313 Thermodynamics of Single-Component Systems (Sp, Su, Fa) or CHEG 2313H Honors Thermodynamics of Single-Component Systems (Sp, Su, Fa) Humanities or Social Science Elective		3
Year Total:	17	17

<b>Third Year</b>	Units	
	Fall	Spring
CHEM 3813 Elements of Biochemistry (Sp, Su, Fa) or CHEM 4813H Honors Biochemistry I (Fa)	3	
CHEG 3144 Heat and Mass Transfer (Sp, Fa)	4	
CHEG 3323 Thermodynamics of Multi-Component Systems (Sp, Fa) or CHEG 3323H Honors Thermodynamics of Multi-Component Systems (Sp, Fa) Technical Elective	3	
ECON 2143 Basic Economics: Theory and Practice (Sp, Su, Fa) or ECON 2013 Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa) Humanities or Social Science Elective	3	
CHEG 3713 Chemical Engineering Materials Technology (Sp)		3
CHEG 3333 Chemical Engineering Reactor Design (Sp, Fa) or CHEG 3333H Honors Chemical Engineering Reactor Design (Sp, Fa)		3
CHEG 3253 Chemical Engineering Computer Methods (Sp, Fa)		3
CHEG 3233L Chemical Engineering Laboratory I (Sp, Fa)		3

Humanities/Social Science Core Elective		3
Year Total:	19	15

Fourth Year	Units	
	Fall	Spring
CHEG 4163 Separation Processes (Sp, Fa) or CHEG 4163H Honors Separation Processes (Sp, Fa)	3	
CHEG 4413 Chemical Engineering Design I (Sp, Fa) or CHEG 4413H Honors Chemical Engineering Design I (Sp, Fa)	3	
CHEG 4813 Chemical Process Safety (Fa) or CHEG 4813H Honors Chemical Process Safety (Fa)	3	
Advanced Science Elective	3	
Technical Elective	3	
CHEG 4332L Chemical Engineering Laboratory II (Sp, Fa)		2
CHEG 4423 Automatic Process Control (Sp) or CHEG 4423H Honors Automatic Process Control (Sp)		3
CHEG 4443 Chemical Engineering Design II (Sp, Fa) or CHEG 4443H Honors Chemical Engineering Design II (Sp, Fa)		3
Advanced Science or Chemical Engineering Elective		3
Chemical Engineering Elective		3
Year Total:	15	14

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Total Units in Sequence: 128

## Elective Options in Chemical Engineering

Each student in chemical engineering is required to complete six semester hours of technical electives, three semester hours of Advanced Science electives, three semester hours of Chemical Engineering electives, and three semester hours of Advanced Science or Chemical Engineering electives.

## Technical Electives

In general, any upper level (3000-level or above) course in the sciences, math or engineering may serve as a technical elective, with prior approval by your academic adviser. BIOL 2013, BIOL 2213, BIOL 2323 and BIOL 2443 are 2000-level courses that can also serve as technical electives, and are also useful for students applying to medical school. INEG 2313, INEG 2333, INEG 2413 and INEG 3513 are statistics-oriented classes, and may be used for technical elective credit. Upper-level courses in non-technical areas such as business may also serve as technical electives with prior approval by your academic adviser. There is no specific list of approved technical electives.

## Advanced Science and Chemical Engineering Electives

A list of the approved Advanced Science or Chemical Engineering courses is shown below. Once again, each student in chemical engineering is required to complete three semester hours of Advanced Science electives, three semester hours of Chemical Engineering

electives, and three semester hours of Advanced Science or Chemical Engineering electives. Courses not on the list *may* satisfy the requirement with student appeal and approval by the Chemical Engineering faculty.

### Advanced Science Electives

CHEM 2263	Analytical Chemistry Lecture (Sp, Fa)	3
CHEM 2261L	Analytical Chemistry Laboratory (Sp, Fa)	1
CHEM 3453	Elements of Physical Chemistry (Fa)	3
CHEM 3451L	Elements of Physical Chemistry Laboratory (Fa)	1
CHEM 3504	Physical Chemistry I (Fa)	4
CHEM 3514	Physical Chemistry II (Sp)	4
CHEM 4213	Instrumental Analysis (Sp)	3
CHEM 4211L	Instrumental Analysis Laboratory (Sp)	1
CHEM 4843H	Honors Biochemistry II (Sp)	3
CHEM 4853	Biochemical Techniques (Sp)	3
PHYS 3113	Analytical Mechanics (Fa)	3
PHYS 3414	Electromagnetic Theory (Sp)	4
PHYS 3544	Optics (Fa)	4
PHYS 3613	Modern Physics (Sp, Su, Fa)	3
PHYS 4333	Thermal Physics (Sp)	3
PHYS 462VL	Modern Physics Laboratory (Sp)	1-3
PHYS 4734	Introduction to Laser Physics (Sp)	4
FDSC 4304	Food Chemistry (Fa)	4

### Chemical Engineering Electives

CHEG 4273	Corrosion Control (Sp)	3
CHEG 5273	Corrosion Control (Sp)	3
CHEG 5013	Membrane Separation and System Design (Irregular)	3
CHEG 488V	Special Problems (Sp, Su, Fa)	1-6
CHEG 5033	Technical Administration (Irregular)	3
CHEG 5043	Colloid and Interface Science (Odd years, Sp)	3
CHEG 5113	Transport Processes I (Fa)	3
CHEG 5133	Advanced Reactor Design (Sp)	3
CHEG 5213	Advanced Chemical Engineering Calculations (Irregular)	3
CHEG 5333	Advanced Thermodynamics (Fa)	3
CHEG 5353	Advanced Separations (Irregular)	3
CHEG 5513	Biochemical Engineering Fundamentals (Even years, Sp)	3

Students are encouraged to select elective courses to better prepare for employment or further study in areas such as:

- Biotechnology
- Biomedical engineering
- Environmental engineering
- Food process engineering
- Materials engineering
- Microelectronics
- Nanotechnology
- Nuclear engineering
- Pre-medicine
- Simulation and optimization

Additional opportunities are available to enhance the educational experience of students in these areas. Students should consult their academic adviser for recommendations.

## Honors Program Requirements

Chemical engineering students enrolled in the Honors College are encouraged to complete the requirements to graduate with honors. In addition to grade point requirements, Honors College students must complete a total of at least 12 hours of honors course credits including a minimum of 6 hours of honors course credits in chemical engineering. The student must also participate in a design or research project culminating in an Honors Thesis. Thesis credit in the department will be satisfied by Honors College students in one of the following ways:

- Completion of the American Institute of Chemical Engineers Design Competition Problem individually following contest rules as part of CHEG 4443 Design II;
- Completion of a design contest problem as part of a team, such as the WERC competition in CHEG 4443 Design II; or
- Completion of CHEG 488V Special Problems at the direction of a faculty mentor.

Regardless of the thesis project, an Honors Thesis and oral presentation will be prepared by the student and approved by the Department Honors Committee and the faculty mentor.

## School of Law

### Office of the Dean of the School

162 Leflar Law Center, 479-575-4504

#### Dean

Stacy L. Leeds

#### Associate Dean for Academic Affairs

Carl Circo

#### Associate Dean for Faculty Research and Development

Ned Snow

#### Associate Dean for Students

James K. Miller

## Law School Admissions

479-575-3102

## World Wide Web

<http://law.uark.edu/>

This page provides undergraduate students with information about the School of Law. Find out more in the School of Law Catalog (<http://catalog.uark.edu/lawcatalog>).

## Mission and Objectives

The primary goal of the University of Arkansas School of Law is to prepare lawyers who will render high-quality professional service to their clients, who are interested in and capable of advancing legal progress and reform, and who are prepared to be leaders in their communities. These objectives can best be realized by a talented and dedicated full-time faculty working in partnership with an interested and involved bench

and bar. The faculty and administrative staff at the School of Law strive to maintain mutually beneficial relationships with judges and practicing lawyers. Appellate courts regularly schedule cases at the School of Law, and the judges meet with students informally after the arguments. Full-time faculty members teach first-year courses and other required substantive law courses, while practice skill courses such as legal clinic and activities such as moot court and client counseling depend on the assistance of the practicing bar.

The University of Arkansas School of Law also has a strong sense of responsibility to the people of Arkansas. Members of the faculty and student body are active in numerous public service activities. Legal counsel to the indigent is provided through the clinical education program and by special court appointments from time to time. Students and faculty also serve on the bar, in civic and legislative committees, and on task forces. A number of faculty and students contribute time and expertise to state agencies and law reform groups. All of these activities offer students real legal work, serving the people of Arkansas.

## Teaching Methods

Legal training teaches principles through discussion and skills through practice. The student must be, by definition, an active participant in that process.

The Socratic "case method" is the basic tool of traditional American legal education. This method involves the study and discussion of litigated cases. The teacher calls upon students to respond in a stimulating question-and-answer dialogue, frequently involving several class members and often including more questions than answers. The learning experience occurs not only in the interchange between teacher and student, but also among the students themselves. This process, applied skillfully by expert teachers and by students possessing a sense of awareness and curiosity, hones the minds of students, develops their respect for facts, and creates a sensitivity to essential differences among issues, policies, reasons, and arguments. Intensive and consistent daily preparation is necessary for students to participate effectively in this process.

In some of the first-year courses, and in many later courses, students are given practical legal problems to solve. These problems may involve drafting legal documents or formulating a course of action for a hypothetical client.

By the time students reach their third year, they will be prepared to engage in significant legal research in selected areas of specialization. A primary source for such experience will be seminars taught informally in small groups by professors who are experts in selected subjects. Frequently, a student will be expected to defend a seminar paper before classmates under circumstances that provide lively and constructive discussion. During the second and third years, students are also permitted to engage in research and writing projects for credit under the supervision and consultation of a selected faculty member, in an area of particular interest to the student.

Of increasing importance in legal education is the role of practical, on-the-job training involving legal problems of actual clients. Legal clinic courses provide valuable client counseling experience, as well as participation in actual trials and appeals under the supervision of a member of the faculty who is also a licensed attorney. Representation is provided for students and indigent local residents. Both civil and certain referred criminal cases are accepted by the clinic.

Many classes in the School of Law involve a significant skills component in which students are placed in a simulated client-based situation and asked to respond appropriately. The curriculum includes a number of specially designated-skills classes that focus on practice skills. All law students are required to take at least one skills class prior to graduation.

## Facilities and Resources

### Robert A. Leflar Law Center

Additions to the Robert A. Leflar Law Center were completed in spring 2008, and the building was dedicated in October 2008 by former Associate Supreme Court Justice Sandra Day O'Connor. A new addition was opened for students in fall 2006, and faculty and staff moved into new offices in August 2007. The expanded facilities include a new entry hall facing the Arkansas Union and Mullins Library, a two-story lobby, four state-of-the-art classrooms on the third floor, a gourmet coffee shop on the second floor, the 203-seat E.J. Ball Courtroom and a new Student Services office. The Richard B. Atkinson Memorial Courtyard, designed by world-renowned artist and sculptor Jesús Morales, was completed in fall 2008.

### Robert A. and Vivian Young Law Library

The Robert A. and Vivian Young Law Library includes more than 300,000 volumes, including cases and statutes from every American jurisdiction. The law library also contains a current and complete collection of legal encyclopedia, digests, tests, treatises, law reviews, reports of administrative agencies, and other government publications.

The Young Law Library is a depository for federal, state, and United Nations documents. It is the only U.N. documents library in the state and one of a few in the Midwest. The library includes a growing collection of agricultural law materials developed with assistance from the National Agricultural Law Center.

Students researching legal problems use traditional printed resources and electronic resources available across the Internet. Portals such as Loislaw.com, LEXIS, WESTLAW, the State of Arkansas Web page, the National Agriculture Law Center Web page, and the Young Law Library's Web page help students identify and use appropriate resources. Computer labs are available for student use. The School of Law also has a wireless network accessible to all students, faculty, and staff.

While primarily designed for the use of Arkansas students, the Young Law Library also serves the research needs of the bench, the bar, and the University community. The Young Law Library provides an attractive and comfortable atmosphere for study and research. Included within the Young Law Library is the Barrett Hamilton Law Library Mezzanine, a particularly attractive study and shelf space area. In addition, the main campus library, Mullins Library, is located near the Young Law Library. The two libraries work closely together to identify, acquire, and share resources throughout the campus.

## Law Faculty

- Robert A. Leflar Professor Bailey (C.)
- Vincent Foster University Professor of Legal Ethics and Professional Responsibility Brill
- Clayton N. Little Professor Goforth
- E.J. Ball Professor Judges
- Wylie H. Davis Distinguished Professor Killenbeck (M.)
- Ben J. Alzheimer Professor of Legal Advocacy Leflar

- Sidney Parker Davis Jr. Professor of Business and Commercial Law Matthews
- Nathan G. Gordon Professor Nance
- William H. Enfield Distinguished Professor Sheppard
- Professors Beard, Brummer, Circo, Ewelukwa, Flaccus, Leeds, Moberly, Norvell, Schneider
- Associate Professors Buehler, Foster, Gallini, Hughes, Kelley, Killenbeck (A.), Sacharoff, Tarvin, Thompson, Young
- Assistant Professor Sampson
- Visiting Clinical Assistant Professors Doss, Gaithe
- Professor of Law Emeritus Witte

## Other Programs

### Joint J.D./M.B.A. Program (Business Administration)

The School of Law and the Sam M. Walton College of Business offer students a juris doctor (J.D.) degree and a master's of business administration (M.B.A.) degree concurrently. Students working to pursue their degrees in this joint program must gain admission to both the School of Law and the Graduate School and be accepted into the program of study leading to the M.B.A. degree. If the student is accepted into both programs, a maximum of six hours of approved upper-level elective law courses may be used as duplicate credit toward the M.B.A. degree and a maximum of six hours of approved graduate courses in business administration may be used as duplicate credit toward the J.D. degree, thus reducing the total time necessary for completion of the degrees.

### Joint J.D./M.P.A. Program (Public Administration)

The department of political science, the Graduate School, and the School of Law cooperate in a dual-degree program that allows a student to pursue a juris doctor (J.D.) degree and a master's of public administration (M.P.A.) degree concurrently. Students must be admitted to the M.P.A. program, the School of Law, and the dual-degree program. If students enter the dual-degree program after enrolling in either the School of Law or the M.P.A. program, they must obtain admission to the other degree program and the dual-degree program during the first year of study.

The School of Law accepts a maximum of nine hours of M.P.A. courses to satisfy requirements for the J.D. degree. To qualify for J.D. credit, the M.P.A. courses must come from a set of core courses and must be approved by the School of Law. For purposes of the M.P.A. degree, 15 hours of elective courses may be taken in the School of Law, provided they are in an area of concentration approved by the director of the M.P.A. program. Students must earn a grade of B or higher in any M.P.A. course offered for credit toward the J.D.

Students admitted to the dual-degree program may commence their studies in either the School of Law or in the M.P.A. program but must complete first year course requirements before taking courses in the other degree program. If they do not maintain the academic or ethical standards of either degree program, students may be terminated from the dual degree program. Students in good standing in one degree program but not the other may be allowed to continue in the program in which they have good standing and must meet the degree requirements of that program. If for any reason a student admitted to the dual degree program does not complete the M.P.A. degree, he or she cannot count any hours of M.P.A. courses toward the J.D. degree. Likewise, M.P.A. students may not be able to count certain law courses if they decide to discontinue

their studies in the School of Law. The J.D. degree will be awarded upon completion of all degree requirements; the M.P.A. will be awarded upon completion of the comprehensive examination and the internship (and internship report), or alternately, six hours of additional coursework.

## Joint J.D./M.A. Program

The School of Law and the Department of Political Science provide a dual J.D./M.A. in International Law and Politics. This program's students must be admitted both to the School of Law and the Graduate School in the Department of Political Science.

A maximum of 12 hours of approved, upper-level elective law courses may be used as credit toward the M.A. and a maximum of nine hours of approved graduate courses in political science may be used as credit toward the J.D. degree, reducing the time necessary to complete both degrees by about one academic year. The M.A. program offers a six-hour thesis or a paid, six-month internship option designed to prepare students for a career in international politics or law.

The 12 hours of M.A. courses taken in the School of Law must relate to the study of international law and be approved by the student's M.A. adviser and the Law School's Associate Dean of Academic Affairs. The nine hours of approved graduate courses in political science may include: Comparative Political Analysis; Seminar in International Politics; Seminar in Contemporary Problems; International Political Economy; and International Trade Policy. Other political science and graduate-level courses may be taken by permission. Paid internship credits cannot be applied toward the juris doctorate.

## School Admission Requirements

For complete details concerning admission to the School of Law, go to the school's admission page (<http://law.uark.edu/academics/jd>) or write to School of Law Office of Admissions, Leflar Law Center, University of Arkansas, Fayetteville, AR 72701, or telephone 479-575-3102.

## General Information

The School of Law's deadline for receiving a completed application is April 1. The school does not charge an application fee. Admission is only for the fall of each year, and only a full-time program is offered.

The School of Law prefers online applications. The school may request more information than is listed below, but please do not send additional materials unless requested. Each student application file will be reviewed when it is completed.

## Prerequisites

Except for students in the 3/3 programs, applicants must have completed all requirements for a bachelor's degree from an accredited institution prior to the date of enrolling in the School of Law.

## CAS

Applicants must participate in the Credential Assembly Service (CAS) and be registered with CAS during the application year. Through CAS, applicants are required to send the Law School Admission Council (LSAC) official transcripts from all higher education institutions that the applicant has attended.

## LSAT

Applicants also must take the Law School Admission Test (LSAT) before the end of February and within the five years preceding the date of application. Applications may be submitted prior to taking the LSAT. The

School of Law will use an applicant's highest LSAT score in calculating the applicant's prediction index.

## Prediction Index

The School of Law will grant index admission to non-residents who have a prediction index of 205 or above and to Arkansas residents who have a prediction index of 200 or above. If space permits, we may offer index admissions to other applicants. All admitted students must satisfy the legal profession's character and fitness requirements.

The prediction index is calculated as follows: (LSAT score) + (13.4 x UGPA) = Prediction Index. For example, if you have an LSAT score of 160 and a 3.00 UGPA, your prediction index would be 202.

## Transfer Students

A law student who has completed one year of legal studies with satisfactory scholarship in a law school accredited by the American Bar Association is eligible to be considered for transfer to the University of Arkansas School of Law. The amount of transfer credit to be granted will depend on the quality of performance and the relation of completed courses to this school's program. A maximum of 30 credits may be accepted for transfer credit. Credit or units only (not grades) are transferable. Credits will not be accepted for any course or other work in which a grade below 2.00 or equivalent is given at another law school. Failure to disclose attendance at another college or law school or expulsion or suspension is sufficient grounds to require withdrawal from the School of Law.

## Pre-Law Study

No pre-law curriculum is prescribed at the University of Arkansas School of Law or at any other American law school. Experience has shown that students do equally well in law school and in law practice regardless of their differing educational backgrounds. As a result, no single "pre-law major" is required or even recommended. Students in a position to structure their college curricula should select courses that emphasize analytical and problem-solving skills and courses in which written work is vigorously edited. Arkansas admits applicants from a wide variety of college majors. The resulting diversity enhances and enriches the educational experience of all students.

**LSAT:** The Law School Admission Test (LSAT) is given four times per year in Fayetteville and at other locations throughout Arkansas and in other states. Registration may be arranged online at [www.lsac.org](http://www.lsac.org) (<http://www.lsac.org>). Applicants for admission are urged to take the test at least nine months prior to expected entrance in the School of Law.

## 3/3 Programs

The School of Law and the J. William Fulbright College of Arts and Sciences have collaborated in developing a program that will enable outstanding students to enter the School of Law after their third year of undergraduate studies. A student enrolled in the Fulbright College is eligible to begin study in the UA School of Law after the completion of at least 94 hours of college work if the following criteria are met:

1. Completion of all University, college, and major course requirements for their undergraduate degrees;
2. A cumulative grade-point average of at least 3.50; and
3. A score of at least 159 on the LSAT.

Such students will receive a Bachelor of Arts or a Bachelor of Science after the completion of sufficient hours at the School of Law in order to meet the regular requirements of Fulbright College. These students will

then receive a juris doctor (J.D.) degree after completing the required number of hours at the School of Law.

In addition to the 3/3 program with the J. William Fulbright College of Arts and Sciences, the School of Law has a similar program with the department of agricultural economics and agribusiness in the Dale Bumpers College of Agricultural, Food, and Life Sciences. Exceptional students may enroll in the Law School in their fourth year of undergraduate study. Students will be required to have (1) completed at least 95 credit hours in the pre-law program, (2) a cumulative grade-point average in all college or University course work of at least 3.50 without grade renewal, and (3) an LSAT score of at least 159. The B.S.A. Agricultural Business degree will be granted after successfully completing 29 credit hours from the first-year School of Law course work.

It is a requirement of the School of Law's accreditation standards that no student be admitted to the University of Arkansas School of Law until they have completed at least three-fourths of the work necessary for the baccalaureate degree. The requirements embodied in these 3/3 programs satisfy this requirement.

## College Scholarships

Students are expected to make sufficient financial arrangements for the first year of study without the necessity of seeking employment. All law students are required to be full-time students, and no law student is permitted more than 20 hours per week of employment. First-year students are strongly discouraged from working while enrolled in classes. First-year students are expected to adhere to a standard curriculum; some courses in the upper-division curriculum are also required.

Applications for financial aid may be obtained from the Office of Financial Aid, University of Arkansas, Hunt Hall 114, Fayetteville, AR 72701, 479-575-3806. You may also find more information about financial aid opportunities online at the Financial Aid website (<http://www.uark.edu/admin/fininfo>). Applications for financial aid must be submitted to the Office of Financial Aid by April 1. Specific fees and costs are listed in the School of Law Catalog.

## Degree Requirements

For course information and degree requirements, see the School of Law Catalog (<http://catalog.uark.edu/lawcatalog>) or by writing or calling the University of Arkansas School of Law, Leflar Law Center, Waterman Hall 147, Fayetteville, AR 72701, 479-575-7645.

## Graduate Studies

The University of Arkansas School of Law is a professional degree program. In addition to the law degree, the Law School offers a graduate degree in agricultural law. The Graduate Program in Agricultural Law at the University of Arkansas is the only program in the United States that offers a Master of Laws (LL.M.) degree in agricultural law. Students enrolled in this unique and selective program have the opportunity for advanced study, creative research, and specialized professional training in the legal issues involved with agricultural production, marketing, and distribution. Graduates of the program are among the leaders of today's agricultural law community, working in private practice, government, agribusiness, public policy, and academia. For more information, visit the Agricultural Law page (<http://catalog.uark.edu/lawcatalog/llminagriculturalandfoodlaw>) or e-mail the graduate program at [llm@uark.edu](mailto:llm@uark.edu).

## Accreditations

The degree programs in the School of Law on the Fayetteville campus are accredited by both the American Bar Association and the Association of American Law Schools.

## Reserve Officers' Training Corps

The Reserve Officers' Training Corps (ROTC) programs at the University of Arkansas provide physical and mental challenges that are not offered anywhere else on campus. The ROTC programs prepare young men and women for careers as professional military officers. In addition to academic studies, each service requires that all students attend a weekly leadership laboratory.

The freshman and sophomore courses are electives offered to male and female students who may earn four hours of academic credit in Aerospace Studies or up to six hours in Military Science. Absolutely no military obligation is incurred by non-scholarship students as a result of their enrollment in or completion of any or all of their freshman or sophomore ROTC courses.

## Air Force ROTC Faculty

**Buster G. McCall**, Professor, Lieutenant Colonel  
**Clayton E. Sharum**, Assistant Professor, Captain

**Professor of Aerospace Studies**  
Lieutenant Colonel Buster G. McCall

319 Memorial Hall, 479-575-3651/3652,

E-mail: [rotc030@uark.edu](mailto:rotc030@uark.edu)

## World Wide Web

<http://afrotc.uark.edu/>

The University of Arkansas hosts the award-winning Air Force ROTC Detachment 030, ThunderHawks, part of a nationwide program that allows students to pursue commissions as officers in the United States Air Force while simultaneously attending college. Students can register through normal course registration processes.

Air Force ROTC consists of four years of Aerospace Studies classes:

AERO 1011	The Foundations of the United States Air Force I (Fa)	1
AERO 1021	The Foundations of the United States Air Force II (Sp)	1
AERO 2011	The Evolution of Air and Space Power I (Fa)	1
AERO 2021	The Evolution of Air and Space Power II (Sp)	1
AERO 3013	Air Force Leadership Studies I (Fa)	3
AERO 3023	Air Force Leadership Studies II (Sp)	3
AERO 4013	National Security Affairs and Preparation for Active Duty I (Fa)	3
AERO 4023	National Security Affairs and Preparation for Active Duty II (Sp)	3

And a corresponding Leadership Laboratory for each year, at which students apply leadership skills, demonstrate command and effective



communication, develop physical fitness, and practice military customs and courtesies.

College students enrolled in the Air Force ROTC program (known as "cadets") who successfully complete both Air Force ROTC training and college degree requirements will graduate and simultaneously commission as Second Lieutenants in the Active Duty Air Force.

Additional information about Air Force ROTC can be found on the Web at <http://www.afrotc.com/>.

## Army ROTC

### Professor of Military Science and Leadership

Lieutenant Colonel Chad B. Quayle

106 Army ROTC Building, 479-575-4251

Toll Free: 1-866-891-5538, Fax: 479-575-5855

E-mail: [armyrotc@cavern.uark.edu](mailto:armyrotc@cavern.uark.edu)

### World Wide Web

<http://armyrotc.uark.edu/>

In addition to the first two years of academic study, the University of Arkansas, in cooperation with the U.S. Army, offers two years of advanced instruction in Military Science, Leadership, Ethics, and Personal Confidence. The advanced instruction prepares students for the responsibilities and privileges of a Commissioned Officer. This advanced instruction offers one to four hours of academic credit per semester for Army cadets. Additionally, all contracted students enrolled in the final two years of ROTC receive a monthly tax-free allowance ranging from \$450 to \$500.

Army ROTC cadets attend a paid 28-day Leadership Development and Assessment Course (LDAC) between their junior and senior school years. Cadets may attend professional development training such as Leadership Internships, Airborne, Air Assault, British Exchange Program, Northern Warfare, Nurse Summer Training Program, Mountain Warfare and Cultural Immersion Overseas Program in the summer during their sophomore year. During summer field training, cadets receive room and board.

For students having a minimum of two academic years in school remaining (undergraduate, graduate, or a combination of the two), an alternate two-year program is offered. Students entering the two-year ROTC program attend a 28-day Leaders Training Course (LTC) during the summer. Students who attend LTC and are otherwise qualified are eligible for two-year scholarships. Rising juniors, seniors and graduate students who meet the U.S. Army Cadet Command's Scholar-Athlete-Leader criteria and are unable to attend the LTC may elect to participate in the Accelerated Cadet Commissioning Training (ACCT) program conducted on the UA campus.

All veterans who have completed basic training and 180 days of service with any component of the U.S. Armed Forces can receive full credit for the freshman and sophomore courses and may enter ROTC at the advanced level, once junior academic standing has been achieved.

Financial assistance is also available to qualified students enrolled in ROTC courses. The Army offers two, two-and-one-half, three, three-and-one-half, and four-year scholarships. Freshman or sophomore students who are not enrolled in Army ROTC may qualify for on-campus two or three-year scholarships. Juniors, seniors, and graduate students who

have at least two full years of college remaining may also qualify for on-campus two or three-year scholarships. Scholarships can be used to pay for graduate school. Scholarship students receive a monthly tax-free allowance ranging from \$300 to \$500, payment of all tuition expenses, textbook payment (\$1,200 per year), and payment of certain other fees. Additionally, some qualified three- and four-year scholarship winners may receive free room and board, provided they meet the University of Arkansas requirements for the Room and Board Scholarship.

Army ROTC scholarship and advanced course students must agree to successfully complete at least one semester of American Military History, LDAC, and a Staff Ride (Terrain Walk) prior to commissioning. Depending on the degree plan, Army ROTC may count from zero to 16 hours of elective credits for undergraduate students.

Army ROTC also offers a unique financial assistance program available to all non-scholarship Army ROTC Advanced Course students through the Simultaneous Membership Program (SMP). This program allows students with 27 or more hours to be enrolled in Army ROTC while simultaneously serving with an Army Reserve or Army National Guard unit. Financial benefits of this program presently provide approximately \$600 to \$1,700 per month to enrolled students. Prior Service National Guard and Army Reserve students may also qualify for the Montgomery G.I. Bill, MGIB Kicker, the Veterans Administration Work-Study Program, Federal Tuition Assistance, and/or the Arkansas Army National Guard Tuition Assistance Program. Army ROTC Scholarship Nurse Cadets may also receive reimbursement for expenses related to Nursing Uniforms, Immunizations, Clinical Fees, Nursing Malpractice Insurance and the NCLX-RN review and testing. All financial assistance from the Army Reserve or Army National Guard is based on available funds from the respective branch.

A student who successfully completes the Advanced Course in the Army ROTC program and receives a degree may be accepted for a regular or reserve commission in one of the sixteen branches of the Army.

All textbooks, instructional material, and equipment required for ROTC courses are furnished at no cost to students.

## Service Learning

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## The Service Learning Initiative

The Service Learning Initiative is a joint initiative between the University of Arkansas Provost Office, the Honors College, and the Division of Student Affairs. Service learning builds critical thinking skills while engaging in academic courses that promote experiential, community-based activities. Formulated service learning courses must meet the committee-approved

service learning definition and criteria, and be approved for designation by the Service Learning Committee.

### Service Learning Definition

Service learning is a credit-bearing, faculty-directed, teaching-learning experience that is course specific. Service Learning strengthens academic content knowledge and sense of civic responsibility. Students build critical thinking skills as they engage in experiential, community-based activities that are aligned with and integral to academic course work. At the same time, the community (real people in real situations) benefits from assistance that would otherwise not be available.

### Courses Page

Students can visit the Service Learning program course page (<http://servicelearning.uark.edu/student-resources/courses.php>) to find courses that have been designated with service-learning components. Faculty can find criteria (<http://servicelearning.uark.edu>) to develop courses that will be considered for designation as service learning courses.

### Service Learning Steering Committee

- Alison Turner, Fay Jones School of Architecture and Design
- Casey Kayser, J. William Fulbright College of Arts and Sciences
- Fran Hagstrom, College of Education and Health Professions
- Bailey Sullivan, College of Engineering
- Lisa Wood, Dale Bumpers College of Agricultural, Food and Life Sciences
- Molly Jensen, Department of Marketing, Sam M. Walton College of Business
- Sarah Malloy, Office of Study Abroad
- Chelsea Hodge, Honors College
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## Undergraduate Faculty

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- Avalos, Lisa**, Ph.D. (Northwestern University), J.D. (New York University), M.A., B.A. (Northwestern University), Associate Professor, Law.
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- Becnel, Jennifer N.**, Ph.D. (Arizona State University), M.A. (University of California-San Francisco), B.A. (San Diego State University), Assistant Professor, School of Human Environmental Sciences, 2014.
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- Behrend, Douglas A.**, Ph.D. (University of Minnesota), B.A. (Kalamazoo College), Professor, Department of Psychological Science, 1989, 2009.
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- Bell, Steven M.**, Ph.D. (University of Kansas), M.A. (University of Kentucky), B.A. (University of Kansas), Associate Professor, Department of World Languages, Literatures and Cultures, 1992.
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- Benamara, Mourad**, Ph.D., M.S. (University of Toulouse III, France), Assistant Professor, Institute for Nanoscience and Engineering, 2007.
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- Biehle, Scott**, M.L.A. (University of Texas at Austin), B.A. (St. Olaf College), Clinical Assistant Professor, Department of Landscape Architecture, 2015.
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- Forscher, Patrick**, Ph.D. (University of Wisconsin), B.A. (Macalester College), Assistant Professor, Department of Psychological Science, 2017.
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- Franklin, Carly T.S.**, M.S.W. (University of Arkansas), 2014, 2015.
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- Goussevskaja, Anna**, Ph.D. (University of Warwick, United Kingdom), B.Sc. (Federal University of Minas, Brazil), Clinical Assistant Professor, Department of Management, 2013.
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- Hanson, David**, M.Ed. (University of Arkansas), B.S.Ed. (Missouri State University), Clinical Instructor, Department of Curriculum and Instruction, 2015.
- Hao, Li**, Ph.D. (George Mason University), M.S.C.E. (Hong Kong University of Science and Technology), B.A. (Fudan University, China), Assistant Professor, Department of Economics, 2011.
- Happgood, Thomas Layley Jr.**, M.F.A., B.A. (University of Arizona), Associate Professor, School of Art, 2005, 2012.
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- Hardke, Jarrod T.**, Ph.D. (Louisiana State University), B.S.A. (University of Arkansas), Associate Professor, Department of Crop, Soil and Environmental Sciences, 2013, 2016.
- Hare, Laurence Jr.**, Ph.D., M.A. (University of North Carolina at Chapel Hill), B.A. (University of Tennessee at Chattanooga), Associate Professor, Department of History, 2010, 2015.
- Hargis, Billy M.**, D.V.M. (University of Minnesota-Twin Cities), M.S. (University of Georgia), B.S. (University of Minnesota), Professor, Department of Poultry Science, Sustainable Poultry Health Chair, 2000.
- Harrington, Phil**, Ph.D., M.S. (University of Notre Dame), B.S. (Whitworth College), Associate Professor, Department of Mathematical Sciences, 2009, 2011.
- Harris, Benjamin**, M.M. (University of Arkansas), Instructor, Department of Music, 2015.
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- Harris, Rodney**, Ph.D. (University of Arkansas), M.A. (University of Central Arkansas), B.A. (Arkansas State University), Instructor, Department of History, 2017.
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- Harter, William G.**, Ph.D. (University of California-Irvine), B.S. (Hiram College), Professor, Department of Physics, 1986.
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- Havens, Jerry A.**, Ph.D. (University of Oklahoma), M.S.Ch.E. (University of Colorado-Boulder), B.S.Ch.E. (University of Arkansas), Distinguished Professor, Department of Chemical Engineering, 1970, 1997.
- Haydar, Adnan Fuad**, Ph.D. (University of California-San Diego), M.A., B.A. (American University of Beirut), Professor, Department of World Languages, Literatures and Cultures, 1993.
- Haydar, Paula Marie**, Ph.D., M.F.A. (University of Arkansas), B.S. (University of Massachusetts), Clinical Assistant Professor, Department of Middle East Studies, 2006, 2015.
- Hayden, Teresa**, D.N.P. (American Sentinel University), Adjunct Instructor, Eleanor Mann School of Nursing, 2015.
- Hayes, David**, M.S. (Murray State University), B.S. (University of Arkansas), Instructor, Department of Chemistry and Biochemistry, 2007.
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- Hearth, Douglas P.**, Ph.D. (University of Iowa), M.A. (University of Iowa), B.A. (University of Wisconsin, Madison), Associate Professor, Department of Finance, 1989.
- Heffernan, Michael Joseph**, Ph.D., M.A. (University of Massachusetts), A.B. (University of Detroit), Professor, Department of English, 1986.
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- Hemphill, Dewey**, M.S. (University of Arkansas), B.A. (Memphis State University), Instructor, Operations Management, 2014.
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- Henry, Christopher Garrett**, Ph.D. (University of Nebraska-Lincoln), M.S., B.S. (Kansas State University), Assistant Professor, Biological Engineering, 2011.
- Henry, Leah Jean**, Ph.D. (Texas Woman's University), M.A. (Michigan State University), B.S. (Texas A&M University), Associate Professor, Department of Health, Human Performance and Recreation, 2008, 2011.
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- Herman, Greg**, M.Arch. (Rice University), B.Arch. (University of Cincinnati), Associate Professor, Department of Architecture, 1991, 1998.
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- Hernandez, Sarah**, Ph.D., M.S. (University of California, Irvine), B.S. (University of Florida), Assistant Professor, Department of Civil Engineering, 2015.
- Hernandez-Miranda, Michael**, Ph.D., M.A. (Texas A&M University), B.A. (University of Oriente), Instructor, Department of World Languages, Literatures and Cultures, 2015.
- Herold, Laura K.**, Ph.D., M.A. (University of Michigan), B.A. (Oberlin College), Clinical Assistant Professor, School of Human Environmental Sciences, 2015.
- Herold, Warren**, Ph.D. (University of Michigan), Assistant Professor, Department of Philosophy, 2014.
- Hershberger, Margaret**, Ph.D., M.S. (University of Chicago), B.S. (The Ohio State University), Instructor, Department of Chemistry and Biochemistry, 2015.
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- Herzog, Jacob**, M.M. (Manhattan School of Music), B.M. (Berklee College of Music), Instructor, Department of Music, 2016.
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**Heyes, Colin David**, Ph.D. (Georgia Institute of Technology), B.S. (Loughborough University), Associate Professor, Department of Chemistry and Biochemistry, 2008, 2014.

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- Hyman, Jeremy S.**, C.Phil. (University of California, Los Angeles), M.A. (Princeton University), B.A. (University of Michigan), Instructor, Department of Philosophy, 2013.
- Imbeau, Marcia B.**, Ph.D. (University of Connecticut), M.Ed. (University of Arkansas at Little Rock), B.A. (Hendrix College), Professor, Department of Curriculum and Instruction, 1991, 2013.
- Irish, Shawn D.**, M.F.A. (University of Arkansas), B.A. (Missouri Southern State University), Assistant Professor, Department of Theatre, 2013.
- Irungu, David M.**, M.A. (University of Mississippi), B.Ed. (University of Nairobi, Kenya), Instructor, Department of World Languages, Literatures and Cultures, 2016.
- Ivey, Mack**, Ph.D., B.S. (University of Georgia), Associate Professor, Department of Biological Sciences, 1992, 1998.
- Iyer, Shilpa**, Ph.D. (University of Georgia), M.Sc., B.Sc. (University of Pune, India), Assistant Professor, Department of Biological Sciences.
- Jackson, Brandon**, Ph.D. (Florida State University), Assistant Professor, Department of Sociology and Criminal Justice, 2013.
- Jackson, Phillip**, D.S.L. (Regent University), M.S. (Naval Postgraduate School), B.B.A. (National University), Instructor, Operations Management, 2014.
- Jacobs, Lynn Frances**, Ph.D., M.A. (New York University), B.A. (Princeton University), Distinguished Professor, School of Art, 1989, 2016.
- Jacobus, Frank R.**, M.Arch. (University of Texas at Austin), Associate Professor, Department of Architecture, 2012, 2015.
- Jaduh, Arva**, Ph.D. (University of Southern California), M.Phil. (Cambridge University), B.A. (University of California, Berkeley), Assistant Professor, Department of Economics, 2013.
- Jandik, Tomas**, Ph.D. (University of Pittsburgh), M.S., B.S. (Czech Technical University), Professor, Department of Finance, Dillard Chair in Corporate Finance, 2000, 2016.
- Janicke, Sophie H.**, Ph.D. (Florida State University), M.S. (Eberhard Karls University), B.A. (Friedrich Willhelms University), Visiting Assistant Professor, Department of Communication, 2014.
- Jarnagin, Robyn**, LL.M. (New York University), J.D., B.S. (University of Montana), Visiting Assistant Professor, Department of Accounting, 2016.
- Jarrett, Anna Lee**, Ph.D., M.S.N. (University of Missouri-Columbia), B.S.N. (Missouri Southern State College), Assistant Professor, Eleanor Mann School of Nursing, 2012.
- Jefferies, Neal**, M.S.Ed. (Old Dominion University), B.E.S. (University of Missouri), Instructor, Operations Management, 2017.
- Jennings, Jackson**, Ph.D. (University of Jyväskylä), M.S. (University of Arkansas), B.A. (Hendrix College), Instructor, Department of Biological Sciences, 2013.
- Jennings, John A.**, Ph.D. (University of Missouri), M.S. (University of Arkansas), B.S. (Southwest Missouri State University), Professor, Department of Animal Science, 1998.
- Jensen, David C.**, Ph.D., M.S., B.S. (Oregon State University), Assistant Professor, Department of Mechanical Engineering, 2012.
- Jensen, Hanna Katariina**, Ph.D. (University of Oulu, Finland), Research Assistant Professor, Department of Biomedical Engineering, 2015.
- Jensen, Molly R.**, Ph.D., M.A. (University of Arkansas), B.S. (Southwest Missouri State University), Clinical Associate Professor, Department of Marketing, 2003.
- Jensen, Morten O.**, Ph.D. (University of Aarhus, Denmark), M.Sc. (Georgia Institute of Technology), Associate Professor, Department of Biomedical Engineering, 2014.
- Jensen, Sarah**, M.B.A., B.A. (Webster University), Instructor, Department of Marketing, 2009.
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- Joffe Minor, Tacy Marie**, Ph.D. (Northwestern University), M.A., B.S. (University of Arkansas), Visiting Assistant Professor, Department of Physics, 2011.
- Jogan, Kathleen**, Ed.D., M.S. (University of Arkansas), B.S. (Ursinus College), Instructor, Department of Animal Science, 2015.
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- Johnson, Mark**, Ph.D. (Michigan State University), M.S. (Purdue University), B.S. (City University of New York, Brooklyn College), Professor, Department of Mathematical Sciences, 1995, 2017.
- Johnson, Michael**, M.S.C.E. (University of Pittsburgh), B.S.C.E. (University of Minnesota), B.A. (Chapman College), Professor, Department of Civil Engineering, 2010.
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- Joshi, Mahendra**, Ph.D. (University of Arkansas), Adjunct Associate Professor, Department of Management.
- Joshi, Neelendra**, Ph.D. (Pennsylvania State University), Assistant Professor, Department of Entomology, 2015.
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- Kali, Raja**, Ph.D., M.A. (University of Maryland University College), B.S.C. (University of Calcutta), Professor, Department of Economics, ConocoPhillips Chair in International Education, 1999, 2013.
- Karcher, Douglas Edward**, Ph.D., M.S. (Michigan State University), B.S. (The Ohio State University), Professor, Department of Horticulture, 2000, 2016.
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- Kavouras, Stavros Anastassios**, Ph.D. (University of Connecticut), M.S. (University of Colorado-Colorado Springs), B.S. (University of Athens-Greece), Associate Professor, Department of Health, Human Performance and Recreation, 2012, 2014.
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- Kelley, Donald R.**, Ph.D. (Indiana University at Bloomington), M.A., B.A. (University of Pittsburgh), Professor, Department of Political Science, 1980.
- Kelley, Jason**, Ph.D., M.S. (Oklahoma State University), B.S. (Kansas State University), Extension Associate Professor, Department of Crop, Soil and Environmental Sciences, 2003, 2009.
- Kemper, Nathan**, M.S., B.S. (University of Arkansas), Instructor, Department of Agricultural Economics and Agribusiness, 2014.
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- Kenemer, Jerilyn Laura**, M.A., B.S. (Oklahoma State University), Instructor, Department of Communication, 2013.
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- Kilyanek, Stefan M.**, Ph.D. (University of Chicago), Assistant Professor, Department of Chemistry and Biochemistry, 2014.
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- Mitchell, Joshua Lee**, Ph.D. (Southern Illinois University), M.P.A., B.S. (Murray State University), Assistant Professor, Department of Political Science, 2010.
- Mitchell, Marc E.**, M.F.A. (Boston University), Assistant Professor, School of Art, 2014.
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- Moore, John**, M.A. (Ball State University), B.B.A. (Kent State University), Instructor, Operations Management, 2014.
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- Wilhelm, Adriana**, M.S.I.E. (University of Arkansas), Instructor, Department of Information Systems.
- Wilke, Stephen**, J.D., M.P.A. (University of Memphis), Instructor, Operations Management, 1996.
- Wilkerson, Weston**, M.F.A. (University of Tennessee), B.A. (Texas A&M University), Assistant Professor, Department of Theatre.
- Wilkins, Charles L.**, Ph.D. (University of Oregon), B.S. (Chapman College), Distinguished Professor, Department of Chemistry and Biochemistry, 1998.
- Willett, Cammy**, Ph.D., M.S. (University of Missouri), B.S. (Evangel University), Assistant Professor, Department of Crop, Soil and Environmental Sciences, 2016.
- Williams, Amanda**, Ph.D., M.S., B.S. (Oklahoma State University), Assistant Professor, School of Human Environmental Sciences, 2017.
- Williams, Brent D.**, Ph.D., M.S. (University of Arkansas), B.A. (Lyon College), Associate Professor, Department of Supply Chain Management, Garrison Chair in Supply Chain Management, 2011.
- Williams, Brent Thomas**, Ph.D. (University of Illinois, Urbana-Champaign), M.S. (University of Texas Southwestern Medical School), B.A. (Austin College), Associate Professor, Department of Rehabilitation, Human Resources, and Communication Disorders, 2002, 2008.
- Williams, Charlotte Lewellen**, Ph.D., M.S. (University of Arkansas for Medical Sciences), B.S. (Howard University), 2007.
- Williams, Colleen C.**, J.D. (Washington University in St. Louis), B.A. (Western Washington University), Associate Librarian, University Libraries, 2006, 2009.
- Williams, Darron**, Ph.D. (Northcentral University), M.S., M.B.A., B.S. (University of Memphis), Instructor, Operations Management, 2015.
- Williams, Patrick George**, Ph.D., M.A. (Columbia University), B.A. (University of Texas at Austin), Professor, Department of History, 1998, 2015.
- Williams, Rodney D.**, Ph.D., M.S., B.S.C.E. (University of Arkansas), Assistant Professor, Department of Civil Engineering, 1998.
- Williams, Stacy Goad**, Ph.D., M.S.C.E., B.S.C.E. (University of Arkansas), Associate Professor, Department of Civil Engineering, 1997.
- Willson, Anna E.**, M.A. (Central Missouri State University), Instructor, English Language and Cultural Studies.
- Willson, John David**, Ph.D. (University of Georgia), B.S. (Davidson College), Assistant Professor, Department of Biological Sciences, 2012.
- Wilson, Charles**, Ed.D., M.E., B.S. (University of Arkansas), Instructor, Operations Management, 2005.
- Wilson, Charles E. Jr.**, Ph.D., M.S. (University of Arkansas), B.S. (Arkansas State University), Professor, Department of Crop, Soil and Environmental Sciences, 2011.
- Wilson-Parrish, Nichelle La Von**, M.F.A. (University of North Texas), B.F.A. (University of Arkansas), M.A. (University of North Texas), Instructor, School of Art, 2013.
- Wise, Rick**, Ph.D., M.S. (Southern Methodist University), B.S. (University of Arkansas), Research Professor, Department of Physics, 2014.
- Wiseman, Cindy**, M.F.A. (New Mexico State University), B.F.A. (University of Arkansas), Instructor, School of Art, 2009.
- Wisehr, Cathy**, Ed.D. (University of Missouri-Columbia), M.N.S.Ed., B.S. (Southeast Missouri State University), Clinical Associate Professor, Department of Curriculum and Instruction, 2009, 2016.
- Wistuba, Troy**, Ph.D. (University of Arkansas), M.S., B.S. (Kansas State University), Adjunct Assistant Professor, Department of Animal Science, 2014.
- Wolchok, Jeffrey Collins**, Ph.D. (University of Utah), M.S., B.S. (University of California at Davis), Associate Professor, Department of Biomedical Engineering, 2011, 2017.
- Wolf, Patrick J.**, Ph.D., M.A. (Harvard University), B.A. (University of Saint Thomas), Distinguished Professor, Department of Education Reform, Endowed Chair in School Choice, 2006.
- Wolpert, Rembrandt**, Ph.D. (University of Cambridge), M.A. (Ludwig-Maximilians Universität München), Professor, Department of History, 2000.



- Wood, Clinton M.**, Ph.D. (University of Texas at Austin), M.S.C.E., B.S.C.E. (University of Arkansas), Assistant Professor, Department of Civil Engineering, 2013.
- Wood, Lisa S.**, Ph.D., M.S., B.S. (University of Arkansas), Clinical Assistant Professor, Department of Crop, Soil and Environmental Sciences, 2012, 2015.
- Woodland, Janet C.**, Ph.D., M.A. (State University of New York at Stony Brook), B.A. (King's College), Clinical Assistant Professor, Department of Mathematical Sciences, 1993.
- Woods, Jordan Blair**, Ph.D., M.Phil (University of Cambridge), J.D. (University of California, Los Angeles), Assistant Professor, Law, 2016.
- Woods, Randall B.**, Ph.D., M.A., B.A. (University of Texas at Austin), Distinguished Professor, Department of History, John A. Cooper Sr. Distinguished Professor of Diplomacy, 1971, 1995.
- Worden, Steven K.**, Ph.D. (University of Texas at Austin), M.A., B.A. (Portland State University), Associate Professor, Department of Sociology and Criminal Justice, 1986.
- Worrell, Dan**, Ph.D., M.S., B.S. (Louisiana State University), Professor, Department of Management, Corporate Responsibility Professorship in Management, 2005.
- Worthington, Margaret L.**, Ph.D. (North Carolina State University), M.S. (University of California-Davis), B.S. (Duke University), Assistant Professor, Department of Horticulture, 2016.
- Wright, Nia**, M.B.A. (Tulane University), B.S. (University of Arkansas), Instructor, Operations Management, 2009.
- Wu, Jingxian**, Ph.D. (University of Missouri-Columbia), M.S. (Tsinghua University), B.S. (Beijing University of Aeronautics and Astronautics), Associate Professor, Department of Electrical Engineering, 2008, 2013.
- Wu, Xintao**, Ph.D. (George Mason University), M.E. (Chinese Academy of Space Technology), B.S. (University of Science and Technology), Professor, Department of Computer Science and Computer Engineering, Charles D. Morgan/Axiom Graduate Research Chair, 2014.
- Xiao, Jie**, Ph.D. (State University of New York-Binghamton), M.S., B.S. (Wuhan University), Associate Professor, Department of Chemistry and Biochemistry, Arkansas Research Alliance Scholar, 2016.
- Xiao, Min**, Ph.D. (University of Texas at Austin), B.S. (Nanjing University), Distinguished Professor, Department of Physics, 1990, 2004.
- Xinya, Liang**, Ph.D. (Florida State University), B.S. (Zhejiang Gongshang University, China), 2014.
- Xu, Jenny**, M.A. (University of Texas at Austin), Clinical Associate Professor, Department of World Languages, Literatures and Cultures, 1997.
- Yandell, Kay**, Ph.D., M.A. (Cornell University), B.A. (University of Arkansas), Assistant Professor, Department of English, 2013.
- Yang, Li**, M.A. (Brandeis University and Beijing Language and Culture University), B.A. (Beijing Language and Culture University), Instructor, Department of World Languages, Literatures and Cultures, 2014.
- Yang, Song**, Ph.D., M.S. (University of Minnesota-Twin Cities), M.A. (Nankai University, China), B.A. (Branch College of Nankai, China), Professor, Department of Sociology and Criminal Justice, 2002, 2016.
- Yao, Yun**, Ph.D., M.A. (University of Illinois at Urbana-Champaign), B.A. (Beijing Language and Culture University), Assistant Professor, Department of World Languages, Literatures and Cultures, 2015.
- Yates, Michael**, M.B.A. (Harvard University), M.S. (Naval Postgraduate School), B.A. (University of California), Instructor, Department of Management, 1999.
- Yates-Knepp, Triny**, M.A. (University of Texas, Austin), Instructor, English Language and Cultural Studies.
- Yazwinski, Tom**, Ph.D. (North Carolina State University), M.S. (University of Maine), B.S. (University of Vermont), University Professor, Department of Animal Science, 1977, 2004.
- Yeager, Mickey**, M.S. (University of Arkansas), M.A. (Liberty Baptist Theological Seminary), B.S. (University of Southern Mississippi), Instructor, Operations Management, 1989.
- Yeager, Timothy J.**, Ph.D., M.A. (Washington University in St. Louis), Professor, Department of Finance, Arkansas Bankers Association Chair in Banking, 2006, 2016.
- Younes Velosa, Camilo**, Ph.D. (National University of Colombia), LL.M. (Universidad de Manizales, Colombia), M.S.E.E., B.S.E.E. (National University of Colombia), Visiting Professor, Department of Electrical Engineering.
- Young, Elizabeth Lee**, J.D. (George Washington University), B.A. (Hendrix College), Associate Professor, Law, 2008, 2011.
- Youngblood, Joshua Cobbs**, M.A. (Florida State University), B.A. (University of Louisiana at Monroe), Assistant Librarian, University Libraries, 2011.
- Yu, Fisher**, Ph.D. (Arizona State University), M.S., B.S. (Peking University), Associate Professor, Department of Electrical Engineering, 2008, 2014.
- Zajac, Mark**, Ph.D., M.Sc. (University of Notre Dame), B.Sc. (McMaster University, Hamilton Ontario, Canada), Visiting Assistant Professor, Department of Physics, 2013.
- Zajicek, Anna**, Ph.D. (Virginia Polytechnic Institute and State University), M.S., B.S. (University of Silesia, Poland), Professor, Department of Sociology and Criminal Justice, 1994, 2006.
- Zamarro Rodriguez, Gema**, Ph.D., M.S. (Centro de Estudios Monetarios y Financieros, Spain), B.A. (Universidad Carlos III de Madrid, Spain), Associate Professor, Department of Education Reform, Endowed Chair in Teacher Quality, 2014.
- Zeng, Ka**, Ph.D. (University of Virginia), M.A. (Virginia Polytech Institute and State University), B.A. (Foreign Affairs College, Beijing), Professor, Department of Political Science, 2000, 2011.
- Zhang, Qingyang**, Ph.D. (Northwestern University), M.S. (Loyola University-Chicago), B.S. (Beijing Normal University), Assistant Professor, Department of Mathematical Sciences, 2015.
- Zhang, Shengfan**, Ph.D., M.I.E. (North Carolina State University), B.M. (Fudan University, Shanghai), Assistant Professor, Department of Industrial Engineering, 2011.
- Zhang, Wen**, Ph.D. (Purdue University), M.S. (University of Kansas), Assistant Professor, Department of Civil Engineering, 2011.
- Zhao, Jiangchao**, Ph.D. (University of Wisconsin-Madison), M.S., B.S. (China Agricultural University), Assistant Professor, Department of Animal Science, 2015.
- Zhao, Yue**, Ph.D. (University of Nebraska-Lincoln), B.S. (Beijing University), Assistant Professor, Department of Electrical Engineering, 2015.
- Zheng, Nan**, Ph.D. (University of Michigan-Ann Arbor), M.S. (University of Rochester), B.S. (University of Science and Technology of China), Associate Professor, Department of Chemistry and Biochemistry, 2008, 2015.
- Zhou, Wenchao**, Ph.D. (Georgia Institute of Technology), M.S.M.E. (Xi'an Jiaotong University, Xi'an, China), B.S.M.E. (Huazhong University of Science and Technology, Wuhan, China), Assistant Professor, Department of Mechanical Engineering, 2014.
- Zhu, Jun**, Ph.D. (University of Illinois at Urbana-Champaign), M.S., B.S. (Zhejiang University, Hangzhou, China), Professor, Biological Engineering, 2013.
- Zies, Brenda June**, Ph.D., M.A. (University of Arkansas), B.S. (East Texas State University), Visiting Assistant Professor, Department of Psychological Science, 2005.
- Zilinsky, Anthony**, M.B.A., B.A. (University of Connecticut), Instructor, Operations Management, 2002.

**Zollinger, Richard**, M.B.A., B.S. (Brigham Young University), Instructor, Operations Management, 2016.

**Zou, Min**, Ph.D., M.S.M.E. (Georgia Institute of Technology), M.S.A.E., B.S.A.E. (Northwestern Polytechnical University), Professor, Department of Mechanical Engineering, Twenty-First Century Professorship, 2003, 2013.

**Zou, Tim Jiping**, Ph.D., M.S. (University of Illinois-Urbana-Champaign), B.A. (Shandong University), Librarian, University Libraries, 2004, 2010.

Faculty and instructional staff are listed in alphabetical order. The first date after the listing of each name indicates the year of first appointment at the University of Arkansas; the second date indicates the year of appointment to present faculty rank. Where they coincide, only one date is given.

## Courses of Instruction

Courses listed in this section describe all courses approved for offering by the University of Arkansas. The courses are listed alphabetically by subject with the subject code in parenthesis following. The word “course” refers to a unit of academic instruction, while the word “class” refers to a course that has been scheduled during a semester or summer session with a certain number of prescribed meetings each week. Many courses are offered as classes every semester while many others are offered less frequently. Successful completion of a class usually earns a specified number of semester hours of credit toward a degree.

To see a Schedule of Classes, which lists classes available in a specific semester, along with the instructor of record, time and place the class is being held, go to UAConnect (<https://uaconnect.uark.edu>).

## How to Read a Course Description

Courses listed in this section describe all courses approved for offering by the University of Arkansas. The word “course” refers to a unit of academic instruction, while the word “class” refers to a course scheduled during a semester or summer session with a certain number of prescribed meetings each week. Successful completion of a class usually earns a specified number of semester hours of credit toward a degree.

The Schedule of Classes lists classes available in a specific semester, along with the instructor of record, time and place the class is being held.

## Course Description Explanations

A course listing comprises the following elements, in order:

**Course Prefix:** This alpha descriptor is the first identifying part of a course. This four-letter code represents the course prefix name. Usually the course prefix will be the same as the department offering the course, but occasionally the prefix is one of many different courses offered in a single department. For example, ARAB refers to Arabic courses, which are offered through the Department of World Languages, Literatures and Cultures; HIST refers to History courses.

**Course Number:** Each course is designated by a four-digit number. The first digit identifies the level of the course: 1, freshman level; 2, sophomore level; 3 and 4, junior-senior level; 5, 6, and 7, graduate level. Any exceptions to this practice are stated in the course descriptions.

Students desiring admission to courses offered at levels beyond their standing should request the instructor’s permission to enroll. (For definitions of academic level see Student Classification (p. 59).)

The second and third digits of the number identify the course within the department that offers it.

The fourth digit identifies the semester-hour value of the course. Credit for certain courses does not count toward some degrees.

Normally, courses meet once each week for 50 minutes for each hour of course credit. Laboratory, drill and other kinds of activity courses typically meet for two 50-minute periods per week for each hour of credit.

The letter ‘V’ is used in place of the last digit for those courses in which credit is variable. The minimum and maximum credit hours possible are given in parentheses after the course title.

The letter ‘X’ is used in place of the last digit for those courses in which fixed credit is ten or more hours.

The first three digits of the number are the same for corequisite courses (for example, a lecture and the corequisite lab or drill).

**Course Suffix:** A suffix to the course number further identifies the specific type of instruction:

- C - Drill or Lab Component
- L - Laboratory
- H - Honors Course
- M - Honors Laboratory

A course with no suffix is a typical lecture course (not an honors course).

**Course Title:** The title of the course is printed in bold letters.

**Course Semester Offering:** Course titles are followed by abbreviations (in parentheses) for the semester in which the course is normally offered. Cross-check with the Schedule of Classes to determine if a course is being offered. Courses marked (Sp) will be offered in the spring, courses marked (Fa) will be offered in the fall, courses marked (Su) will be offered in the summer, and courses marked (Irregular) will be offered irregularly. Consult the Schedule of Classes to verify that a course is being offered for a given term.

**Course Description:** A brief description of the course content and its major emphasis are stated. If the course is cross-listed (also offered under another course number) a statement to that effect will be included in the description. If the course is eligible to be repeated for degree credit more than once, a statement will appear to indicate the total hours or times a course may be repeated. If no repeat statement is listed, the course may be used for degree credit only once.

**Requisites:** Requisites are requirements that must be fulfilled either before a course may be taken or at the same time a course is taken. It is the student’s responsibility to make sure the proper prerequisites have been completed before enrolling in any class. Prerequisites are courses or requirements that must be completed prior to enrolling in a certain course. Courses may have prerequisites from inside and outside the department. It is the student’s responsibility to make sure he/she has completed the proper prerequisites before enrolling in any class. Courses listed as corequisite are to be taken in the same semester as the course desired.

A course listed as both a pre- and corequisites are requirements that if not taken prior to enrolling in a course, must be taken during the same semester as the course.

Students may not enroll in courses for which they do not have the necessary requisites. Students who are in doubt concerning their eligibility

to enroll in specific courses should consult with their academic adviser. Students may be dropped from courses for which they do not have the necessary requisites.

## Courses of Instruction

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## Accounting (ACCT) Adult and Lifelong Learning (ADLL)

### Courses

#### **ADLL 5113. Perspectives in Adult Education (Sp, Fa). 3 Hours.**

Historical overview of the evolving field of adult education and lifelong learning in responsibilities of adult education providers and reviews the expansion of adult and lifelong learning opportunities associated with societal and demographic shifts.

#### **ADLL 5123. Principles and Practices of Adult Learning (Su, Fa). 3 Hours.**

Overview of the adult learner including characteristics, motivation for participating in learning, and strategies for developing educational programs for diverse adult populations.

#### **ADLL 5133. Curriculum Development in ABE and ASE (Fa). 3 Hours.**

Curriculum development in Adult Basic Education (ABE) and Adult Secondary Education (ASE) settings including the various educational functioning levels, measures to assess student levels, selection of teaching materials, and development of curriculum utilizing instructional standards for ABE and ASE programs.

#### **ADLL 5143. Instructional Strategies and Assessment in Adult Education (Sp). 3 Hours.**

Selection and utilization of materials and instructional methods for use in adult learning settings. Evaluative strategies to develop or select appropriate tools and techniques predicated upon the needs and goals of adult learners.

#### **ADLL 5153. Organization and Administration of Adult and Lifelong Learning Programs (Sp). 3 Hours.**

Legal, ethical, staffing, and financial considerations for the development and implementation of programs for adult and lifelong learners in various programs including literacy centers, GED centers, community education, lifelong/leisure learning, and postsecondary education.

#### **ADLL 5163. Managing Change in Adult and Lifelong Learning (Su, Fa). 3 Hours.**

Strategies for planning, organizing, and facilitating change in programs that serve adult learners from diverse populations, across varied developmental stages and geographic locations. Discussion of social change that has impacted adult education and analysis of change models relevant to individuals, groups and organizations.

#### **ADLL 5173. Program Planning (Su). 3 Hours.**

Program development process for adult and lifelong learners. Overview of assessment, developing program objectives, identifying resources, and designing program plans.

#### **ADLL 5183. Technology and Innovation in Adult Learning (Su). 3 Hours.**

Techniques for designing, developing, implementing, and assessing technology-mediated adult and lifelong learning programs. Discussion of issues relevant to the use of innovative strategies for delivering instruction via emerging technologies and their potential impact on content and learning outcomes.

#### **ADLL 5193. Seminar in Adult and Lifelong Learning (Sp, Su). 3 Hours.**

Seminars focused on topics related to adult and lifelong learning.

#### **ADLL 5213. Adult and Lifelong Learning Internship (Sp, Fa). 3 Hours.**

Internship in adult and lifelong learning settings.

**ADLL 5223. Adult and Lifelong Learning Applied Project (Sp, Su, Fa). 3 Hours.**  
Development and Implementation of a project focused on adult and lifelong learning. Consent of advisor/instructor required. May be repeated for up to 9 hours of degree credit.

**ADLL 5233. Independent Study (Sp, Su, Fa). 3 Hours.**

Provides students with an opportunity to pursue special study in adult and lifelong learning. May be repeated for up to 6 hours of degree credit.

**ADLL 6113. Advanced Adult Learning Theory (Irregular). 3 Hours.**

Advanced study of theories and models of adult and lifelong learning with an emphasis on current trends, recent research, and issues affecting the field. Issues covered will include critical theory and advancements in neuroscience and cognition as they relate to adult learning and lifespan development.

**ADLL 6123. Leadership and Ethics in Adult and Lifelong Learning (Irregular). 3 Hours.**

This doctoral course focuses on leadership principles and ethical considerations that are critical to developing and sustaining adult education programs that benefit individuals, organizations, and communities. Course content will include case study analysis and lectures from scholar-practitioners from the field.

**ADLL 6133. Analysis of International Adult and Lifelong Programs (Irregular). 3 Hours.**

Survey of the historical and philosophical events which have shaped adult and lifelong learning worldwide. Discussion of issues affecting adult education and lifelong learning including globalization, educational access, and variance in national policies.

**ADLL 6143. Instructional Adaptation and Innovation in Adult and Lifelong Learning (Irregular). 3 Hours.**

An overview of teaching and learning methods, styles, and techniques which are applicable when facilitating adult learners across diverse settings. Content to include teaching and learning style assessment, accommodating learning styles, physical and learning disabilities, language differences and cultural norms.

**ADLL 6153. Policy and Public Governance of Adult and Lifelong Learning Programs (Irregular). 3 Hours.**

Policy analysis and public governance issues in adult and lifelong learning with emphasis on state and federal programs. Discussions of how to evaluate, design, and implement policy focused on promoting adult and lifelong learning activities in a myriad of organizations. Overview of trends and current issues related to policy and public governance of adult and lifelong learning.

**ADLL 6163. Adult Development and Psychology (Irregular). 3 Hours.**

Focus on adult developmental psychology with emphasis on lifespan development and specific issues related to learning in the various stages of adulthood. Work-life balance, meaning of work, generational issues.

**ADLL 6173. Current Issues (Irregular). 3 Hours.**

Exploration and discussion of current issues relative to adult education and lifelong learning. Focus on the review and application of current research as it relates to practice. May be repeated for up to 6 hours of degree credit.

**ADLL 6183. Organization Development, Learning, and Change (Sp, Fa). 3 Hours.**

Using a system perspective, this course examines the theories and practices associated with organization development, learning and change to understand the dynamic nature of organizational life. This course examines the structural frame, the human resource frame, the political frame, and the symbolic frame that influences organizational behavior and learning. The course investigates strategies and best practices for managing and leveraging this dynamism to build organizational capacity and improve performance.

**ADLL 6213. Signature Pedagogy: Teaching and Learning in Community Colleges (Irregular). 3 Hours.**

Using a learning-centered change model, this course examines how community colleges can shift from a traditional teaching-centered paradigm to one that is learning-centered. This course examines the context of the learning college, strategic planning for a learning-outcomes approach to governance, the role of student development and technology in the learning college, and implementing and assessing learning-centered strategies.

**ADLL 6223. Workforce and Community Development (Irregular). 3 Hours.**

This course provides an overview of how community colleges influence workforce, economic, and community development through their education missions. The course will examine the community college's expanding role in economic and community development through workforce development programs. Emphasis will be placed on program structure, best practices in program development, and partnerships and collaboration with various stakeholders.

**ADLL 6233. Survey and Significance of the American Community College (Irregular). 3 Hours.**

A comprehensive overview of the American community college, its history, its ever-evolving purpose and the challenges it faces. Course content will focus on the administrators and faculty who lead, the students they serve, and components such as developmental education, integrative education and transfer education. Discussion will include occupational and community education and issues related to accountability. Special attention will be paid to how this unique and complex institution remains relevant and significant to the community.

**ADLL 6243. Current Trends in Community Colleges (Irregular). 3 Hours.**

This course examines environmental factors that influence the organization and administration of community colleges. Trends related to funding, policy, staffing, and workforce development are examined and contextualized to the evolving community college mission.

**ADLL 6313. Independent Study (Irregular). 3 Hours.**

Independent study of topics in adult and lifelong learning.

**ADLL 6403. Quantitative Reasoning I for Adult Educators (Fa). 3 Hours.**

Introduction to quantitative reasoning for educators and researchers in adult education. Topics include applying the hypothetico-deductive research process, describing data using statistical terminology, building statistical models, presenting data meaningfully, and using SPSS to analyze data from practical research problems.

**ADLL 6413. Quantitative Reasoning II in Adult and Lifelong Learning (Irregular). 3 Hours.**

Methodologies for designing descriptive, correlational, and experimental studies. Development of research questions, definition of variables, selection or development of instruments, data collection, analysis, interpretation and reporting of research results. Prerequisite: ADLL 6403 or ESRM 6403 or equivalent.

**ADLL 6423. Qualitative Reasoning in Adult and Lifelong Learning (Irregular). 3 Hours.**

Methodologies for designing qualitative research studies in adult and lifelong learning settings. Selection of the appropriate qualitative tradition, selection of research subjects, development of data collection protocols, field work strategies, data analysis, data interpretation and presentation of data results.

**ADLL 6433. Program Evaluation (Irregular). 3 Hours.**

Overview of evaluation strategies in adult and lifelong learning programs that include: development of evaluation questions, selection or development of instrumentation, data collection methods, data analysis, and reporting of evaluation results. Emphasis on practical and ethical issues associated with evaluation processes. Prerequisite: ADLL 6403 or ESRM 6403 or ADLL 6413 or ADLL 6423, or equivalent.

**ADLL 6443. Adult and Lifelong Learning Dissertation Seminar (Irregular). 3 Hours.**

Development of dissertation proposal. Formation of research question, selection of methodologies, development of problem statement, research questions, and identification of research variables, constructs of phenomena. Identification of data collection and data analysis procedures. Prerequisite: ADLL 6403 or ESRM 6403 or ADLL 6413 or ADLL 6423 or ADLL 6433, or equivalent.

**ADLL 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Doctoral Dissertation. Prerequisite: Candidacy. May be repeated for degree credit.

## African and African American Studies (AAST)

### Courses

**AAST 1003. Introduction to African and African American Studies (Sp, Fa). 3 Hours.**

This course is an introduction to the interdisciplinary study of Africa and African Americans and their impact on the world order and society with an emphasis on that impact's manifestations in the United States of America.

**AAST 2023. The African American Experience (Sp, Su, Fa). 3 Hours.**

Examines various facets of African American culture that collectively construct the African American experience including art, literature, drama, migration, film, and education. Covers issues facing African Americans through a cultural and socio-political context to understand and appreciate African American impacts on the United States.

**AAST 3023. African Americans in Sport (Sp, Su, Fa). 3 Hours.**

Historical, sociological, and political issues and debate surrounding African Americans in sport. Contemporary issues facing African American athletes and sports figures.

**AAST 3033. The African American Experience in Business (Irregular). 3 Hours.**

This course is designed to provide the student with a comprehensive and critical analysis of the history of the African American experience as a member of the business sector of the United States economics. The course will review information that includes and demonstrates activities prior to slavery, during, and after slavery. This course is cross-listed with WCOB 3033.

**AAST 3123. African American Students in Higher Education (Irregular). 3 Hours.**

Examines the impact of college environments on African American students. Focuses on the following topics regarding African American students: retention, student demographics, student characteristics, current trends, issues and problems, student success, sub-populations, student values, and implications for higher education.

**AAST 3133. History of Sports in Africa (Irregular). 3 Hours.**

This course considers the ways that Africans have strategically employed sports to confront and overcome both domestic and external challenges and how these approaches and the range of constituent strategies have changed over time. This course is cross-listed with HIST 3133.

**AAST 3183. Popular Culture in the Caribbean (Irregular). 3 Hours.**

History of the Caribbean through a historically-situated analysis of popular culture production, including literature, dance, music, cuisine, film, carnival, television, and sexuality.

This course is cross-listed with HIST 3183.

**AAST 3193. The Making of the Modern Caribbean (Fa). 3 Hours.**

History of the Caribbean from pre-Columbian to present times focusing in particular on indigenous origins, colonialism, slavery, rebellion, independence, nationalism, and political integration in the making of the modern Caribbean region. This course is cross-listed with HIST 3193.

**AAST 3233. African American History to 1877 (Sp, Fa). 3 Hours.**

History of the African American experience in North America emphasizing economic, social, and cultural perspectives. Topics include the African slave trade, the creation of race and racism, the institution of slavery, free community formation in North, and the impact of the Civil War and Reconstruction on African Americans. This course is cross-listed with HIST 3233.

**AAST 3243. African American History Since 1877 (Sp, Fa). 3 Hours.**

The course will study the major social, political, and economical issues relating to the African American experience beginning with the late post-Reconstruction period and will include all of the major personalities and influences in the Civil Rights Movement, from 1877 to the present.

This course is cross-listed with HIST 3243.

**AAST 3253. The History of Sub-Saharan Africa (Fa). 3 Hours.**

Sub-Saharan African history from the 18th century to the present, with emphasis on the impact of the slave trade, colonization, Independence, and contemporary issues of the post-colonial period. Examination of the ways Africans experienced change in terms of culture, society, economics, gender, religion, politics, and labor.

**AAST 3263. African Americans in Film (Irregular). 3 Hours.**

A survey of the history of images of African Americans in film, especially as these images are examined in the context of stereotypical renditions and/or realistic representations of African American experiences. Issues of African American history, culture, and socio-political context will be addressed in the analyses of these films. Prerequisite: ENGL 1023 and junior or senior standing.

This course is cross-listed with ENGL 3263, JOUR 3263, COMM 3263.

**AAST 3273. African Americans in Documentary Film (Sp). 3 Hours.**

Exploration of the African-American image and experience in the context of time, historical record and varying production viewpoints from diverse documentarians. African-American history, culture and socio-political context are addressed in the analyses of these documentary films from the perspectives of mainstream media, independent filmmakers and minority documentarians. Prerequisite: Junior or senior standing.

This course is cross-listed with JOUR 3273, COMM 3273.

**AAST 3283. Civil Rights Policy and Politics (Sp). 3 Hours.**

This course will draw from linkages between the protest phase of the civil rights and American political institutions. The course explores the institutional impact of the civil rights movement on the presidency, congress, the courts, administrative regulatory agencies, and civil rights advisory organizations.

This course is cross-listed with PLSC 3283.

**AAST 3293. African American Politics (Irregular). 3 Hours.**

This is a survey course designed to provide students with a comprehensive overview of African American political participation in the United States. In addition to analyzing important events in African American Politics, the course attempts to explain evolving patterns of political participation in Black America.

This course is cross-listed with PLSC 3293.

**AAST 3853. Topics in African-American Literature and Culture (Irregular). 3 Hours.**

The study of works of African-American literature, with attention to particular themes, genres, authors, literary movements, historical moments, or other organizing principles. Content varies. May be repeated for up to 9 hours of degree credit.

This course is cross-listed with ENGL 3853.

**AAST 3923H. Honors Colloquium (Irregular). 3 Hours.**

Treats a special topic or issue, offered as part of the honors program. Prerequisite: Honors candidacy (not restricted to candidacy in AAST). May be repeated for degree credit.

**AAST 399VH. Honors African & African American Studies Thesis (Sp, Su, Fa). 1-6 Hour.**

Independent thesis research and writing under the direction of an AAST faculty member. Prerequisite: Junior standing. May be repeated for up to 6 hours of degree credit.

**AAST 4003. African & African American Studies Study Abroad (Even years, Su). 3 Hours.**

Examination of selected topics in conjunction with student participation in the bi-annual African & African American Studies Study Abroad program to Ghana. Topic variable, chosen by instructor. May be repeated for up to 6 hours of degree credit.

**AAST 4003H. Honors African & African American Studies Study Abroad (Even years, Su). 3 Hours.**

Examination of selected topics in conjunction with student participation in the bi-annual African & African American Studies Study Abroad program to Ghana. Topic variable, chosen by instructor. May be repeated for up to 6 hours of degree credit.

**AAST 4063. Women in Africa (Irregular). 3 Hours.**

Diversity of women's life experiences throughout sub-Saharan Africa will be examined. The class will investigate a range of topics, from marriage and motherhood to prostitution and popular culture. A historical dimension will be present throughout the course, and perspectives from literature and film will also be incorporated.

This course is cross-listed with ANTH 4063.

**AAST 4073. African Sociolinguistics (Irregular). 3 Hours.**

Explores how language use intersects, constructs, and reflects social life in Africa. Covers key topics in sociolinguistics as they apply to current sociolinguistic issues on the African continent today.

This course is cross-listed with ANTH 4073, WLLC 4073.

**AAST 4083. African Popular Culture (Irregular). 3 Hours.**

This class explores popular cultural expression across Africa. Topics range from hip hop and film, to second-hand clothing fashions and the media. We will consider how popular culture, while often inspired by global trends, is rooted in local circumstances and often reflects attempts to grapple with important issues.

This course is cross-listed with ANTH 4083.

**AAST 4093. The History of African Americans and Social Justice (Irregular). 3 Hours.**

Explores how the United States has extended social justice to African Americans during the nation's history. Examines social justice for blacks and the impact of historic policies and practices on black life today.

This course is cross-listed with HIST 4093.

**AAST 4123. Africa and the Trans-Atlantic Slave Trade (Irregular). 3 Hours.**

Examines the trans-Atlantic slave trade with a primary focus on the role of Africa and Africans in creating the unique economy and culture of the trans-Atlantic world.

This course is cross-listed with HIST 4123.

**AAST 4153. Race and Society (Fa). 3 Hours.**

Introduction to the sociological study of race and ethnicity within the United States, with emphasis on understanding how race and ethnicity operate within contemporary social institutions. Prerequisite: SOCI 2013 or AAST 1003 or AAST 2023.

This course is cross-listed with SOCI 4153.

**AAST 4163. African American Perspectives of Trauma, Loss, and Recovery (Fa). 3 Hours.**

Explores dimensions of trauma, loss, and recovery within the lived experiences of African American individuals, families, and communities in the United States.

Prerequisite: Junior standing or instructor consent.

**AAST 4173. Social Work with African American Families (Sp, Fa). 3 Hours.**

An overview of historical and contemporary issues of African American families using culturally competent and strengths based frameworks. Focuses on the Black family as a social institution. Covers current trends affecting Black families, historical influences, evaluation of social policies, and programs of today. Prerequisite: Junior standing or instructor consent.

This course is cross-listed with SCWK 4173.

**AAST 4263. Independence and Africa Today (Sp). 3 Hours.**

Examines the last half-century of Africa's history, focusing on the last few decades. Introduction of Africa's colonial past, revolutions and struggles for independence. Review of African development in the post-colonial and contemporary era, successes and failures of independent Africa, and the challenges the continent faces today.

This course is cross-listed with HIST 4263.

**AAST 4273. Comparative Slavery (Irregular). 3 Hours.**

Explores the meaning of slavery around the world, both in ancient and modern times. This examination of how slavery differed in various cultures over time will allow students to explore the complexity of this labor relationship and gain a better understanding of how slavery was an integral part of world history.

This course is cross-listed with HIST 4273.

**AAST 4323. Racial Identity, Politics, and Public Policy (Even years, Sp). 3 Hours.**

Examines how race and perceived racial differences affect political discourse, mobilization, representation, and political outcomes. Prerequisite: PLSC 4293 or AAST 1003 or Junior standing.

This course is cross-listed with PLSC 4323.

**AAST 4383. The American Civil Rights Movement (Irregular). 3 Hours.**

Introduction to the history and development of the civil rights movement in the United States.

This course is cross-listed with HIST 4383.

**AAST 4463. African American Theatre History - 1950 to Present (Sp). 3 Hours.**

A chronological examination of African-American theatre history from 1950 to the present through the study of African-American plays and political/social conditions. Upon completion of this course, the student should be familiar with the major works of African-American theatre and have a deeper understanding of American history.

**AAST 4483. African American Biographies (Irregular). 3 Hours.**

Introduction to the history and intellectual development of famous and not-so-famous African Americans.

This course is cross-listed with HIST 4483.

**AAST 4563. The Old South, 1607-1865 (Odd years, Fall). 3 Hours.**

Survey of the political, social, and economic development of the antebellum South. This course is equivalent to HIST 4563.

**AAST 4573. The New South, 1860 to the Present (Even years, Fa). 3 Hours.**

Survey of the development of the Civil War and postwar South to the present. This course is cross-listed with HIST 4573.

**AAST 4583. Peoples and Cultures of Sub-Saharan Africa (Fa). 3 Hours.**

An exploration of the people and places of Africa from a variety of anthropological perspectives. Classic and contemporary works will be studied in order to underscore the unity and diversity of African cultures, as well as the importance African societies have played in helping us understand culture/society throughout the world. This course is cross-listed with ANTH 4583.

**AAST 4813. Africans and Slavery in Colonial Latin America (Irregular). 3 Hours.**

Explores the diverse experiences of slaves and free Blacks in colonial Spanish and Portuguese America from 1500 to around 1888, demonstrating that bondage and the practice of African slavery was a pillar of political authority in colonial Latin America. This course is cross-listed with HIST 4813.

**AAST 4823. Black Freedom in the Age of Emancipation (Sp). 3 Hours.**

Comparative study of Atlantic World freedom movements from the perspective of the African Diaspora. Focuses on the histories, meanings, and legacies of the various types of black emancipation in the Atlantic World and the cultural technologies that enabled them.

**AAST 4853. Studies in African American Literature and Culture (Irregular). 3 Hours.**

The study of works of African American literature, with attention to particular themes, genres, authors, literary movements, historical moments, or other organizing principles. Content varies. At least one major research paper will be required. May be repeated for up to 9 hours of degree credit. This course is cross-listed with ENGL 4853.

**AAST 489V. African & African American Independent Study (Irregular). 1-6 Hour.**

An exploration of African & African American Studies topics independently with a faculty member. Topic variable with permission of faculty member. May be repeated for up to 6 hours of degree credit.

**AAST 4923. History of the Black Press (Even years, Sp). 3 Hours.**

Covers the historic context of contributions and innovations to U.S. newspapers by African Americans. Also investigates the role of the black press from its beginnings in 1827 through the civil rights movement. Prerequisite: Junior standing. This course is cross-listed with JOUR 4923.

**AAST 4933. African American Political Ideology (Odd years, Fa). 3 Hours.**

A survey course designed to identify and examine characteristics and functions of several variants of black political ideology/thought. This course is cross-listed with PLSC 4933.

**AAST 4953. The History of Sub-Saharan African Women (Irregular). 3 Hours.**

Introduction to the history of women in Sub-Saharan Africa, starting in the early 18th century through the 20th century. Focus on women and the transatlantic slave trade, women's influence in pre-colonial religious, political, and cultural institutions, and women's experiences under colonial rule and in post-colonial Africa. This course is cross-listed with HIST 4953.

**AAST 4963. Third World Underdevelopment and Modernization (Irregular). 3 Hours.**

Examines key issues related to societal change in the Third World, including various views and theories of international development and modernization. Other major issues explored include social inequalities, food and hunger, population, environment, trade and globalization, international aid, and the roles of state, market, and civil society. This course is cross-listed with HIST 4963.

**AAST 499V. African and African American Studies Seminar (Sp, Su, Fa). 1-12 Hour.**

Explores the various aspects of the African & African American experience as it relates to the development of relationships in American society and the world at large. Variable topic each semester. May be repeated for up to 12 hours of degree credit.

**AAST 5003. Graduate Seminar in African & African American Studies (Irregular). 3 Hours.**

Introduction to graduate study of African & African American Studies through an interdisciplinary examination of the history of the discipline, research methods employed, and its relationship to other disciplines.

**AAST 5103. Graduate Readings in African & African American Studies (Irregular). 3 Hours.**

An exploration of African & African American Studies topics independently with a faculty member. Topic variable with permission of faculty member. May be repeated for up to 6 hours of degree credit.

## Agricultural Economics (AGEC) Courses

**AGEC 1103. Principles of Agricultural Microeconomics (Sp, Su, Fa). 3 Hours.**

Introduction to agricultural economics, including a survey of the role and characteristics of agriculture businesses in our economic system. Basic economic concepts concerning price determination, profit maximization, and resource use are emphasized. The use of economic principles as applied to the production and marketing decisions made by managers of agricultural firms is demonstrated. Credit will be allowed for only one of AGECE 1103 or ECON 2023 or ECON 2023H. Pre- or Corequisite: MATH 1203.

This course is cross-listed with ECON 2023.

**AGEC 1103H. Honors Principles of Agricultural Microeconomics (Sp, Fa). 3 Hours.**

Introduction to agricultural economics, including a survey of the role and characteristics of agriculture businesses in our economic system. Basic economic concepts concerning price determination, profit maximization, and resource use are emphasized. The use of economic principles as applied to the production and marketing decisions made by managers of agricultural firms is demonstrated. Credit will be allowed for only one of AGECE 1103 or ECON 2023 or ECON 2023H. Pre- or Corequisite: MATH 1203.

This course is cross-listed with ECON 2023, AGECE 1103.

**AGEC 2103. Principles of Agricultural Macroeconomics (Sp, Fa). 3 Hours.**

Applications of economics principles to problems of agricultural production, distribution, and income; including a study of the interrelationship between agriculture and other segments of the economy; and the dynamic forces in the economy which affect agriculture. Credit will be allowed for only one of AGECE 2103 or ECON 2013 or ECON 2013H. Pre- or Corequisite: MATH 1203.

This course is cross-listed with ECON 2013.

**AGEC 2141L. Agribusiness Financial Records Lab (Sp, Fa). 1 Hour.**

A computer lab section for the AGECE 2142 Agribusiness Financial Records class is required to teach students accounting software and spreadsheet applications related to financial record keeping. Corequisite: AGECE 2142. Prerequisite: AGME 2903 or WCOB 1120 and AGECE 1103 or ECON 2023 or ECON 2143.

**AGEC 2142. Agribusiness Financial Records (Sp, Fa). 2 Hours.**

Principles of small agricultural business management accounting practices are taught to allow students to gain hands-on experience with financial record keeping for a business. Resulting financial statements are analyzed to determine opportunities for enhancing financial efficiency. Corequisite: AGECE 2141L. Prerequisite: AGME 2903 or ISYS 1120 and AGECE 1103 or ECON 2023 or ECON 2143.



**AGEC 2303. Introduction to Agribusiness (Sp, Su, Fa). 3 Hours.**

Introduction to agribusiness issues as they relate to the food processing, wholesale and retail sectors of the agricultural industry. Coverage of methods and tools agribusiness managers use to evaluate business opportunities. Case studies serve to communicate concepts of product distribution, design, promotion and pricing in the development of a marketing plan. Prerequisite: AGEC 1103 or ECON 2023.

**AGEC 2403. Quantitative Tools for Agribusiness (Fa). 3 Hours.**

Introduction to quantitative methods used in agricultural economics and agribusiness with an emphasis on skills and techniques that will enhance the ability of students to perform in upper division coursework. Provides an overview of statistical and optimization methods used in research problems, economic theory, and applied decision making activities. Prerequisite: (AGEC 1103 or ECON 2023 or ECON 2143) and (MATH 2043 or MATH 2053).

**AGEC 3303. Food and Agricultural Marketing (Sp, Su, Fa). 3 Hours.**

Surveys consumer trends in food markets and the marketing activities of the food and fiber system. Emphasizes marketing concepts for both commodities and differentiated food products. Topics include applied consumer and price theory; marketing management; structure and performance of the food system; and current agricultural marketing topics. Prerequisite: AGEC 1103 or ECON 2023 or ECON 2143.

**AGEC 3313. Agribusiness Sales (Sp). 3 Hours.**

Principles of professional sales and sales management techniques used in food and agricultural firms; develop a professional sales presentation; study current agribusiness industry professional sales persons and sales practices and techniques. Corequisite: Drill. Prerequisite: AGEC 1103 or AGEC 2103 or ECON 2013 or ECON 2023 or ECON 2143 or equivalent.

**AGEC 3373. Futures and Options Markets (Fa). 3 Hours.**

Theory and mechanics of commodity futures and options markets including trading, margin, fees, etc. Price relationships between cash, futures and options. Fundamental and technical price analysis. Price risk management strategies for producers and users of agricultural commodity marketing plan. Speculative and hedging simulation exercises. Prerequisite: AGEC 1103 or ECON 2023.

**AGEC 3403. Farm Business Management (Sp, Fa). 3 Hours.**

Application of economic principles for the profitable organization and operation of the farm business. Focuses upon agricultural production management decision-making tools: budgeting techniques (enterprise, partial, cash flow), balance sheet, income statement, cash flow, investment analysis and risk management. Recommended: AGEC 1103 (or ECON 2023), AGEC 2142, and AGME 2903.

**AGEC 3413. Principles of Environmental Economics (Sp). 3 Hours.**

An introductory, issues-oriented course in the economics of the environment. The course will focus on what is involved in how society makes decisions about environmental quality. The environmental issues important to the State of Arkansas and the United States will be emphasized. Prerequisite: AGEC 1103 or ECON 2023. This course is cross-listed with ENSC 3413.

**AGEC 3413H. Honors Principles of Environmental Economics (Sp). 3 Hours.**

An introductory, issues-oriented course in the economics of the environment. The course will focus on what is involved in how society makes decisions about environmental quality. The environmental issues important to the State of Arkansas and the United States will be emphasized. Corequisite: Drill component. Prerequisite: AGEC 1103 or ECON 2023. This course is cross-listed with AGEC 3413, ENSC 3413.

**AGEC 3503. Agricultural Law I (Fa). 3 Hours.**

Examination of those areas of law especially applicable to agriculture. Fundamentals of contract law, torts law, and property law will accompany discussion of major areas of agricultural law; acquisition and disposal of farmland; farm tenancies; rights and limitations in the use and ownership of farmland; water law; environmental protection; protection of the productivity of agricultural land; and the law of sales and secured transactions in an agricultural context.

**AGEC 3523. Environmental and Natural Resources Law (Even years, Sp). 3 Hours.**

Principles of environmental and natural resources law relevant to agriculture, food and the environmental sciences; legal principles relating to regulation of water, air, hazardous substances, land, wildlife, livestock, and water rights. Principles of civil and criminal liabilities and other developing legal and regulatory issues relating to agriculture and natural resources.

**AGEC 400V. Special Problems (Sp, Su, Fa). 1-6 Hour.**

Special studies and readings conducted under the direct supervision of staff members to satisfy the requirements of individual students. May be repeated for up to 6 hours of degree credit.

**AGEC 401V. Internship in Agribusiness (Sp, Su, Fa). 1-6 Hour.**

A supervised practical work experience in an agribusiness firm or a governmental or industrial organization having direct impact on agriculture in order to gain professional competence and insight to employment opportunities. Prerequisite: junior standing. May be repeated for up to 8 hours of degree credit.

**AGEC 402V. Special Topics (Irregular). 1-3 Hour.**

Studies of selected topics in agricultural economics not available in other courses. May be repeated for degree credit.

**AGEC 4113. Agricultural Prices and Forecasting (Sp). 3 Hours.**

Price theory and techniques for predicting price behavior of general economy and price behavior of individual agricultural products will be analyzed. Provides practice in the application of economics and statistics to agricultural price analysis. Lecture 2 hours, laboratory 2 hours per week. Prerequisite: (AGEC 1103 (or ECON 2023), AGEC 2403, AGST 4023 or STAT 2303 or WCOB 1033) and MATH 2053.

**AGEC 4123. Legal Issues in Animal Agriculture (Odd years, Sp). 3 Hours.**

An issues-oriented course focusing on the legal issues involved in the production of poultry, swine and livestock. Emphasis will center on the laws, regulations and policy arguments involved in animal confinement, antibiotic use, humane slaughter and veterinary medicine, along with other related issues. The wide range of regulation from local to state to federal, depending on the issue will be studied and discussed. This course is cross-listed with ANSC 4123, POSC 4123.

**AGEC 4143. Agricultural Finance (Fa). 3 Hours.**

Methods and procedures whereby agricultural firms acquire and utilize funds required for their successful operation. Emphasis is placed upon role of finance and financial planning and consideration is given to an understanding of financial firms serving agriculture. Prerequisite: (AGEC 1103 or ECON 2023) and (AGEC 2103 or ECON 2013) and (AGEC 2142 or AGEC 2143 or ACCT 2013 or WCOB 1023).

**AGEC 4163. Agricultural and Rural Development (Fa). 3 Hours.**

Examination of agricultural and rural development issues in less developed countries. Alternative agricultural production systems are compared, development theories examined, and consideration given to the planning and implementation of development programs. Prerequisite: AGEC 1103 (or ECON 2023).

**AGEC 4303. Advanced Agricultural Marketing Management (Sp). 3 Hours.**

Marketing concepts will be developed and applied to the global food and fiber system. The course will use both commodity and product marketing principles and economic theory to analyze varied marketing situations. Case studies will be used to demonstrate the role that demand analysis and consumer behavior play in market management. Prerequisite: AGEC 2303 and AGEC 3303.

**AGEC 4313. Agricultural Business Management (Fa). 3 Hours.**

The planning, organizing, leading and controlling functions of management as they relate to agricultural business firms. Marketing of value-added products, budgeting, organizational structure, cost control, financial statements, capital budgeting and employee supervision and motivation. Case studies are used to teach communication and decision-making skills. Prerequisite: (AGEC 2142 and AGEC 2141L) or AGEC 2143 or equivalent, AGEC 2303 or equivalent, and senior standing is recommended.

**AGEC 4323. AgriBusiness Entrepreneurship (Sp). 3 Hours.**

Agribusiness entrepreneurship is the process of bringing food or rural-based products and services from conceptualization to market. The course presents the opportunities, problems and constraints facing individuals and firms operating in rural or isolated markets while emphasizing the steps in conceptualization, development, marketing, and delivery-selling of agribusiness rural products. Prerequisite: AGECE 1103 or equivalent.

**AGEC 4373. Basis Trading: Applied Price Risk Management (Sp, Su). 3 Hours.**

Use of futures markets as risk shifting institutions. Students design and implement hedging and cross hedging strategies for grain farmers, country elevators, soybean crushers, poultry firms, etc. Spreadsheets and statistical techniques are used to develop optimal hedging ratios. Prerequisite: AGECE 3373 or consent of instructor.

**AGEC 4383. Basis Trading: Case Study (Fa). 3 Hours.**

This course provides an opportunity to apply principles learned in AGECE 4373 to grain merchandising using the case study approach. The course will involve in-class meetings supplemented with faculty-directed group-based learning experiences involving professional grain merchandisers. Group activities will follow the traditional case study method. Prerequisite: AGECE 4373.

**AGEC 4403. Advanced Farm Business Management (Fa). 3 Hours.**

Principles and procedures of decision making as applied to the allocation of resources in the farm business for profit maximization. Emphasis is placed on use of principles of economics and their application to the decision making process. Includes exercises on the application of principles to specific farm management problems. Prerequisite: AGECE 3403 and AGME 2903 or equivalent.

**AGEC 4603. Food Economics and Health (Sp). 3 Hours.**

This course provides an advanced overview of selected topics in food economics, food and nutrition policy and the interface between nutrition programs and health policy. Students will develop an understanding of economic and policy concepts of food, nutrition, and health. The course emphasizes analytical tools that can be applied to study issues in food, nutrition, and health facing the US and world populations. Prerequisite: AGECE 1103 (or ECON 2023) and AGECE 2403 or equivalent.

**AGEC 4613. Political Economy of Agriculture and Food (Fa). 3 Hours.**

Agricultural and food policies are studied from domestic and international perspectives. Laws, regulations, decisions and actions by governments and other institutions are examined in terms of rationale, content, and consequences. Economic and political frameworks are used to assess policies in terms competitive structure, operation, and performance of farming and food systems. Prerequisite: (AGECE 1103 or ECON 2023) and (AGECE 2103 or ECON 2013) and (PSYC 2003 or SOCI 2013 or HESC 2603).

**AGEC 4623. International Agricultural Trade and Commercial Policy (Sp). 3 Hours.**

Analysis of agricultural market competition and performance in a global economy. The impact of domestic and international agricultural policies on domestic and international markets and welfare. Economic principles applied to the interaction of economic events in the world food economy. Prerequisite: (AGECE 1103 or ECON 2023) and (AGECE 2103 or ECON 2013).

**AGEC 500V. Special Problems (Sp, Su, Fa). 1-3 Hour.**

Individual reading and investigation of a special problem in agricultural economics not available under regular courses, under the supervision of the graduate faculty. Prerequisite: Graduate standing.

**AGEC 5011. Seminar (Sp, Fa). 1 Hour.**

Presentation and discussion of graduate student research. Formal presentations are made by all graduate students. Consideration given to research design, procedures, and presentation of results. Prerequisite: Graduate standing.

**AGEC 502V. Special Topics (Irregular). 1-3 Hour.**

Advanced studies of selected topics in agricultural economics not available in other courses. Prerequisite: Graduate standing. May be repeated for degree credit.

**AGEC 503V. Internship in Agricultural Economics (Sp, Su, Fa). 1-3 Hour.**

On-the-job application of skills developed in the M.S. program.

**AGEC 5043. Agricultural Finance (Fa). 3 Hours.**

(Formerly AGECE 4143.) Methods and procedures whereby agricultural firms acquire and utilize funds required for their successful operation. Emphasis is placed upon role of finance and financial planning and consideration is given to an understanding of financial firms serving agriculture. Graduate degree credit will not be given for both AGECE 4143 and AGECE 5043. Prerequisite: (AGECE 1103 or ECON 2023) and (AGECE 2103 or ECON 2013) and (AGECE 2142 or AGECE 2143 or ACCT 2013 or WCOB 1023).

**AGEC 5053. Advanced Farm Business Management (Fa). 3 Hours.**

(Formerly AGECE 4403.) Principles and procedures of decision making as applied to the allocation of resources in the farm business for profit maximization. Emphasis is placed on use of principles of economics and their application to the decision making process. Includes exercises on the application of principles to specific farm management problems. Graduate degree credit will not be given for both AGECE 4403 and AGECE 5053. Prerequisite: AGECE 3403 and AGME 2903 or equivalent.

**AGEC 5063. Agricultural and Rural Development (Fa). 3 Hours.**

(Formerly AGECE 4163.) Examination of agricultural and rural development issues in less developed countries. Alternative agricultural production systems are compared, development theories examined, and consideration given to the planning and implementation of development programs. Graduate degree credit will not be given for both AGECE 4163 and AGECE 5063. Prerequisite: AGECE 1103 (or ECON 2023).

**AGEC 5073. Basis Trading: Applied Price Risk Management (Sp, Su). 3 Hours.**

(Formerly AGECE 4373.) Use of futures markets as risk shifting institutions. Students design and implement hedging and cross hedging strategies for grain farmers, country elevators, soybean crushers, poultry firms, etc. Spreadsheets and statistical techniques are used to develop optimal hedging ratios. Graduate degree credit will not be given for both AGECE 4373 and AGECE 5073. Prerequisite: AGECE 3373 or consent of instructor.

**AGEC 5083. Basis Trading: Case Study (Fa). 3 Hours.**

(Formerly AGECE 4383.) This course provides an opportunity to apply principles learned in AGECE 4373 to grain merchandising using the case study approach. The course will involve in-class meetings supplemented with faculty-directed group-based learning experiences involving professional grain merchandisers. Group activities will follow the traditional case study method. Graduate degree credit will not be given for both AGECE 4383 and AGECE 5083. Prerequisite: AGECE 4373 or AGECE 5073 (formerly AGECE 4373).

**AGEC 5103. Agricultural Microeconomics (Fa). 3 Hours.**

Masters-level training in agricultural microeconomic theory and its application to food, agriculture and the environment. The course covers behavior of firms, households and markets, in more depth and rigor than encountered in undergraduate courses. Theories are explained and then applied to relevant food, agricultural, environment and resource issues.

**AGEC 5113. Agricultural Prices and Forecasting (Sp). 3 Hours.**

(Formerly AGECE 4113.) Price theory and techniques for predicting price behavior of general economy and price behavior of individual agricultural products will be analyzed. Provides practice in the application of economics and statistics to agricultural price analysis. Lecture 2 hours, laboratory 2 hours per week. Graduate degree credit will not be given for both AGECE 4113 and AGECE 5113. Prerequisite: (AGECE 1103 (or ECON 2023), AGECE 2403, AGST 4023 or STAT 2303 or WCOB 1033) and MATH 2053.

**AGEC 5123. AgriBusiness Entrepreneurship (Sp). 3 Hours.**

(Formerly AGEC 4323.) Agribusiness entrepreneurship is the process of bringing food or rural-based products and services from conceptualization to market. The course presents the opportunities, problems and constraints facing individuals and firms operating in rural or isolated markets while emphasizing the steps in conceptualization, development, marketing, and delivery-selling of agribusiness rural products. Graduate degree credit will not be given for both AGEC 4323 and AGEC 5123. Prerequisite: AGEC 1103 or equivalent.

**AGEC 5133. Agricultural and Environmental Resource Economics (Sp). 3 Hours.**

An economic approach to problems of evaluating private and social benefits and costs of altering the environment. Emphasis given to the interaction of individuals, institutions, and technology in problems of establishing and maintaining an acceptable level of environmental quality. Prerequisite: Minimum of 3 hours Agricultural Economics or Economics at 3000 level or higher or PhD standing.

**AGEC 5143. Financial Management in Agriculture (Fa). 3 Hours.**

Covers advanced topics in agricultural finance. The general focus of the course is the financial management of non-corporate firms. Covers the basic tools of financial analysis including financial arithmetic, asset evaluation under risk, and financial analysis and planning using econometric models. Such topics covered include management of current assets, capital budgeting, capital structure, and institutions involved in agricultural finance. Prerequisite: Graduate standing.

**AGEC 5153. The Economics of Public Policy (Sp). 3 Hours.**

This class will examine the impact of public policy on agricultural and other business sectors as well as households and individuals, particular in rural areas. Emphasis will also be placed on analyzing the potential impact of future policy changes. The course will focus on the application of welfare criteria and economic analyses to the problems and policies affecting resource adjustments in agriculture and rural communities. Prerequisite: Graduate standing.

**AGEC 5203. Advanced Agricultural Marketing Management (Sp). 3 Hours.**

(Formerly AGEC 4303.) Marketing concepts will be developed and applied to the global food and fiber system. The course will use both commodity and product marketing principles and economic theory to analyze varied marketing situations. Case studies will be used to demonstrate the role that demand analysis and consumer behavior play in market management. Graduate degree credit will not be given for both AGEC 4303 and AGEC 5203. Prerequisite: AGEC 2303 and AGEC 3303.

**AGEC 5213. Agricultural Business Management (Fa). 3 Hours.**

(Formerly AGEC 4313.) The planning, organizing, leading and controlling functions of management as they relate to agricultural business firms. Marketing of value-added products, budgeting, organizational structure, cost control, financial statements, capital budgeting and employee supervision and motivation. Case studies are used to teach communication and decision-making skills. Graduate degree credit will not be given for both AGEC 4313 and AGEC 5213. Prerequisite: (AGEC 2142 and AGEC 2141L) or AGEC 2143 or equivalent, AGEC 2303 or equivalent.

**AGEC 5223. International Agricultural Trade and Commercial Policy (Sp). 3 Hours.**

(Formerly AGEC 4623.) Analysis of agricultural market competition and performance in a global economy. The impact of domestic and international agricultural policies on domestic and international markets and welfare. Economic principles applied to the interaction of economic events in the world food economy. Graduate degree credit will not be given for both AGEC 4623 and AGEC 5223. Prerequisite: (AGEC 1103 or ECON 2023) and (AGEC 2103 or ECON 2013).

**AGEC 5233. Political Economy of Agriculture and Food (Fa). 3 Hours.**

(Formerly AGEC 4613.) Agricultural and food policies are studied from domestic and international perspectives. Laws, regulations, decisions and actions by governments and other institutions are examined in terms of rationale, content, and consequences. Economic and political frameworks are used to assess policies in terms competitive structure, operation, and performance of farming and food systems. Graduate degree credit will not be given for both AGEC 4613 and AGEC 5233. Prerequisite: (AGEC 1103 or ECON 2023) and (AGEC 2103 or ECON 2013) and (PSYC 2003 or SOCI 2013 or HESC 2603).

**AGEC 5303. Agricultural Marketing Theory (Fa). 3 Hours.**

Survey of the structure of agricultural product and factor markets including a critique of theoretical analyses of industry structure, conduct and performance; and a review of market structure research in agricultural industries. Prerequisite: Graduate standing.

**AGEC 5403. Quantitative Methods for Agribusiness (Fa). 3 Hours.**

Application of quantitative techniques used to support managerial decision-making and resource allocation in agricultural firms. Provides exposure to mathematical and statistical tools (regression analysis, mathematical programming, simulation) used in economic analysis in agriculture. Emphasis is placed on computer applications with conceptual linkage to economic theory. Prerequisite: Graduate standing.

**AGEC 5413. Agribusiness Strategy (Sp). 3 Hours.**

Addresses problems of strategy formulation in agribusiness emphasizing current problems and cases in agriculture. Surveys modern and classic perspectives on strategy with applications to agribusiness. Examines the development of firm level strategies within the structure and competitive environment of agricultural firms and industries. Prerequisite: Graduate standing.

**AGEC 5603. Food Economics and Health (Sp). 3 Hours.**

This course provides an advanced overview of selected topics in food economics, food and nutrition policy and the interface between nutrition programs and health policy. Students will develop an understanding of economic and policy concepts of food, nutrition, and health. The course emphasizes analytical tools that can be applied to study issues in food, nutrition, and health facing the US and world populations. Prerequisite: Graduate standing.

**AGEC 5613. Econometrics (Sp). 3 Hours.**

Use of economic theory and statistical methods to estimate economic models. The single equation model is examined emphasizing multicollinearity, autocorrelation, heteroskedasticity, binary variables and distributed lags and model specification. Prerequisite: MATH 2043 and knowledge of matrix methods, (which may be acquired as a corequisite), and (AGEC 1103 or ECON 2023) and (AGEC 2403 or AGST 4023 or STAT 2303 or WCOB 1033).

**AGEC 5623. Quantitative Food and Agricultural Policy Analysis (Sp). 3 Hours.**

Introduction to applied analysis of domestic and international food and agricultural policies using quantitative tools. This course will provide hands-on experience with simulation modeling in microeconomics. An emphasis is placed on policy analysis through computer applications with theoretical underpinnings. Corequisite: Lab component. Prerequisite: (AGEC 5103 and AGEC 5403) or instructor consent.

**AGEC 5713. Food Safety Law (Irregular). 3 Hours.**

This course provides students with an introduction to food law and policy, history of food regulation, the organization of federal food law and regulatory agencies, government inspection and enforcement powers, food safety standards, food labeling, food advertising and product liability. Web-based course.

**AGEC 5723. Bioenergy and Resource Economics (Even years, Fa). 3 Hours.**

This course surveys the allocation and conservation of natural resources from a perspective of optimal use and the sustainability of resources. The development and distribution issues relating to energy, land, water, and other resource areas are addressed in the course, with emphasis placed on the bioproducts and bioenergy concerns.

**AGED 5733. Bioenergy Economics and Sustainability (Fa). 3 Hours.**

This course will provide an understanding of the economic issues relating to overall supply chains producing bioenergy and bio-based products. The course will address the economic, sustainability and social dimensions of these industries.

**AGED 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Master's Thesis. Prerequisite: Graduate standing. May be repeated for degree credit.

**AGED 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Doctoral Dissertation. Prerequisite: Candidacy. May be repeated for degree credit.

## Agricultural Education (AGED)

### Courses

**AGED 1001. Orientation to Agricultural and Extension Education (Fa). 1 Hour.**

Continuation of AFLS 1011, Freshman Orientation, with attention given to sharing of possible solutions to individual problems. Exploration of anticipated collegiate experiences for departmental majors as well as post-graduation opportunities. Student and faculty interaction is stressed. The class meets during the last half of the fall semester twice a week. The class also meets 1 or 2 evenings for up to two hours each time.

**AGED 1031. Introduction to Early Field Experience (Fa). 1 Hour.**

A thirty hour field experience designed to give prospective agricultural education teachers an opportunity to observe and participate in a variety of school settings. Corequisite: AGED 1123.

**AGED 1123. Foundations of Agricultural Education (Fa). 3 Hours.**

A preparatory course evaluating the historical foundations of agricultural education with an introduction to the psychological, sociological and philosophical foundations of education. This course will encourage reflective practice through understanding of educational trends, classroom environment creation and utilization, and effective program planning. Corequisite: AGED 1031.

**AGED 1133. Lifelong Agricultural Advocacy (Fa). 3 Hours.**

This course will supply students with the necessary information and skills to evaluate and seek out opportunities and methods for advocating for agricultural industries. This course will equip students with the knowledge and skills to become active agricultural leaders serving at the intersection of policy, consumer engagement, and best agricultural practice.

**AGED 2143. Introduction to Agricultural Communications (Fa). 3 Hours.**

A survey of agricultural communications for students in the ACOM concentration and minor and anyone seeking a basic understanding of the discipline. The course provides an overview of the history, philosophy, and theories of the discipline and introduces students to career options, skills and practical competencies required of agricultural communicators.

**AGED 3133. Instructional and Presentation Strategies (Fa). 3 Hours.**

Methods and techniques in teaching agriculture at the secondary level. Lecture 2 hours, laboratory 2 hours per week. Corequisite: Lab component and AGED 1123. Prerequisite: AGED 1031.

**AGED 3143. Communicating Agriculture to the Public (Sp, Su, Fa). 3 Hours.**

An overview of public communications theory and practices in the agricultural, food, and life sciences with a particular focus on technical writing, public relations and media relations writing, campaign planning, public speaking, and various mass media communication techniques, including print, broadcast, electronic, and social media.

**AGED 3153. Leadership Development in Agriculture (Sp). 3 Hours.**

Identification of styles and roles of leadership; development of leadership techniques and skills required in working with organizations; dynamics of group action; methods of resolving conflict; ethical considerations for leaders; and personal skills development.

**AGED 3153H. Honors Leadership Development in Agriculture (Sp). 3 Hours.**

Identification of styles and roles of leadership; development of leadership techniques and skills required in working with organizations; dynamics of group action; methods of resolving conflict; ethical considerations for leaders; and personal skills development. Prerequisite: Junior standing. This course is equivalent to AGED 3153.

**AGED 3163. Curriculum Development and Assessment Techniques in AGED (Sp). 3 Hours.**

An introductory course designed to guide students through the curriculum development and assessment processes. This course will enable students to understand the need for quality curriculum and assessment, design quality curricula and assessment, and evaluate the relationship between roles of curriculum documents and assessments in formal education. Prerequisite: AGED 1123.

**AGED 3173. Research Methods in the Social Sciences (Su). 3 Hours.**

This course offers undergraduate students the basics and explanation for appropriate research procedures, data collection, analysis, and reporting. Course objectives to include identifying appropriate components of research works, evaluation of research in social science and creation of research projects. The purpose of the course is to prepare undergraduate students to be better producers and consumers of research in the social sciences. This course is cross-listed with AGED 3173H.

**AGED 3173H. Honors Research Methods in the Social Sciences (Su). 3 Hours.**

This course offers undergraduate students the basics and explanation for appropriate research procedures, data collection, analysis, and reporting. Course objectives to include identifying appropriate components of research works, evaluation of research in social science and creation of research projects. The purpose of the course is to prepare undergraduate students to be better producers and consumers of research in the social sciences. This course is cross-listed with AGED 3173.

**AGED 3243. Ag Reporting and Feature Writing (Odd years, Fa). 3 Hours.**

This course will provide students an exposure to writing, interviewing, and editing news on agricultural issues in agricultural industry publications. Students will gain practical experience with journalistic interviewing, news writing, feature writing, digital photography, and writing for broadcast on agricultural issues. This course is designed for students with at least six hours of upper division courses. Pre- or Corequisite: JOUR 1033 and lab component.

**AGED 3943. Professional Development in Agricultural Communications (Even years, Fa). 3 Hours.**

Overview of professional and technical skills needed to succeed in internships and jobs in the field of agricultural communications.

**AGED 4003. Issues in Agriculture (Fa). 3 Hours.**

Lecture and discussion on local, regional, national and international issues related to agricultural policy, ethics, environment, society, and science. Designed for students with at least six hours of upper division agricultural science courses. Prerequisite: Junior standing.

**AGED 400V. Special Problems in Agricultural and Extension Education (Sp, Su, Fa). 1-6 Hour.**

Individual study or research for advanced undergraduates in the field of agricultural and extension education. May be repeated for up to 6 hours of degree credit.

**AGED 401V. Special Topics (Irregular). 1-3 Hour.**

Studies of selected topics in agricultural or extension education not covered in other courses. May be repeated for up to 4 hours of degree credit. This course is equivalent to AGED 401.

**AGED 4143. Electronic Communications in Agriculture (Even years, Sp). 3 Hours.**

An overview of communication technology in the agricultural, food and life sciences.

**AGED 4153. Survey of Leadership Theory in Agriculture (Fa). 3 Hours.**

An interdisciplinary analysis of current issues in the practice of leadership in a contemporary and changing society, particularly as they affect agricultural organizations and issues. Discussions of leadership theory, roles of leaders, skills for effective leadership, diversity issues, and followership will challenge students to think critically about leadership, enhance personal leadership performance and potential, and prepare for or expand leadership roles, and to become innovative and productive in dealing with challenges facing agricultural organizations today. Prerequisite: AGED 3153.

This course is equivalent to AGEC 4153.

**AGED 4163. Leadership Analysis Through Film (Sp). 3 Hours.**

"Films are a catalyst" (Clemens, 1999). They make you laugh, cry, cheer, and think. Flaum (2002) stated leadership is best learned in the leadership moment. Moreover, the principles of Andragogy advocate adult learners best learning when there is a practical application of the learning subject. Therefore, this course builds upon the study of leadership theory by allowing students to analyze, reflect, synthesize, and apply leadership theories, models and concepts in the context of film. The course materials encourage students to reflect, synthesize, analyze, and apply the information learned from major leadership theories and apply them to various scenarios and situations demonstrated in selected films. Prerequisite: AGED 3153 or AGED 4153 or graduate standing or instructor consent.

This course is equivalent to AGEC 4163.

**AGED 4233. Program Development (Sp). 3 Hours.**

Principles and concepts of leadership, program organization, supervised agricultural experience, and advisory committees. This course is a portion of pre-professional studies required for certification in agricultural education. Prerequisite: AGED 3133.

**AGED 4243. Graphic Design in AFLS (Sp, Su, Fa). 3 Hours.**

This course provides students with graphic design and software skills specific to industries in Agriculture, Food, and Life Sciences. Students will learn to use industry-standard software (InDesign, Photoshop, Illustrator, Microsoft Excel, etc.) to prepare text and graphics and package them for use in print production. Prerequisite: AGME 2903 or ISYS 1123 or equivalent.

This course is equivalent to AGEC 4243.

**AGED 4343. Communication Campaigns in Agriculture (Odd years, Sp). 3 Hours.**

Students will develop understanding of the principles, practices and applications of social marketing, integrated marketing communications, advertising and public relations as they pertain to developing communication campaign strategies for the agricultural industry. Students will develop a communication campaign for an agricultural company and/or entity focused on a specific product or service. Prerequisite: Junior, senior or graduate status.

This course is equivalent to AGEC 4343.

**AGED 4443. Principles of Technological Change (Odd years, Fa). 3 Hours.**

This course introduces a structured approach for dealing with the organizational and human aspects of technology transition, including the key concepts of resistance and change management, organizational change, communications, and processes by which professional change agents influence the introduction, adoption, and diffusion of technological change. This course may be offered as a web-based course. Prerequisite: Junior standing.

This course is equivalent to AGEC 4443.

**AGED 4543. Ag Publications (Even years, Sp). 3 Hours.**

Students produce a magazine through classroom study mirroring a professional magazine staff and are provided an opportunity for their writing, advertisements, photographs and artwork to be published in the magazine. By using computer applications, students integrate various skills including writing, editing and layout in agricultural publications. Prerequisite: JOUR 1033.

This course is equivalent to AGEC 4543.

**AGED 4632. Teaching Diverse Populations in Agricultural and Extension Education (Sp). 2 Hours.**

This course is designed to provide pre-service teachers of agriculture with an understanding of teaching diverse populations as applied to problems of practice in agricultural and extension education.

This course is equivalent to AGEC 4632.

**AGED 475V. Internship in Agricultural Education (Sp, Su, Fa). 1-6 Hour.**

Scheduled practical field experiences under the supervision of a professional practitioner in off-campus secondary school systems. Emphasis includes classroom preparation, teaching, and student evaluation. Successful completion of a criminal background check required before a student can begin internship. Prerequisite: Admission into Clinical Practice. May be repeated for up to 6 hours of degree credit. This course is equivalent to AGEC 475V.

**AGED 4843. Methods in Agricultural Laboratories (Sp). 3 Hours.**

Methods and management techniques in all types of agricultural laboratories that may be in a secondary agricultural science program. Emphasis on management of students and facilities, equipment, and materials. Lecture 2 hours, laboratory 4 hours per week. Prerequisite: AGME 2123.

**AGED 5001. Seminar (Irregular). 1 Hour.**

Presentations and discussion of graduate student research as well as review of current literature and topics of current interest by students and faculty. All graduate students will make at least one formal presentation.

**AGED 5013. Advanced Methods in Agricultural Mechanics (Odd years, Su). 3 Hours.**

Emphasis on shop organization and management, courses of study, unit shop instruction, and development of skills in agricultural mechanics.

**AGED 5033. Developing Leadership in Agricultural Organizations (Fa). 3 Hours.**

Organizational concepts of leadership; administrative styles and structures; leadership for boards, committees, governmental bodies, and review of societal and political processes. Prerequisite: Graduate standing.

**AGED 5053. Philosophy of Agricultural and Extension Education (Sp). 3 Hours.**

An examination and analysis of social and economic events leading to the establishment and maintenance of federal, state, county, and local agricultural education programs. Lecture 3 hours per week. Prerequisite: Graduate standing.

**AGED 510V. Special Problems (Sp, Su, Fa). 1-6 Hour.**

Individual investigation of a special problem in agricultural education which is not available through regular courses. These will be directed by a member of the graduate faculty. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

**AGED 5143. Electronic Communications in Agriculture (Even years, Sp). 3 Hours.**

(Formerly AGED 4143.) An overview of communication technology in the agricultural, food and life sciences. Graduate degree credit will not be given for both AGED 4143 and AGED 5143.

**AGED 5153. Survey of Leadership Theory in Agriculture (Fa). 3 Hours.**

(Formerly AGED 4153.) An interdisciplinary analysis of current issues in the practice of leadership in a contemporary and changing society, particularly as they affect agricultural organizations and issues. Discussions of leadership theory, roles of leaders, skills for effective leadership, diversity issues, and followership will challenge students to think critically about leadership, enhance personal leadership performance and potential, and prepare for or expand leadership roles, and to become innovative and productive in dealing with challenges facing agricultural organizations today. Graduate degree credit will not be given for both AGED 4153 and AGED 5153. Prerequisite: AGED 3153.

**AGED 5163. Leadership Analysis Through Film (Sp). 3 Hours.**

(Formerly AGED 4163.) Films are a catalyst" (Clemens, 1999). They make you laugh, cry, cheer, and think. Flaum (2002) stated leadership is best learned in the leadership moment. Moreover, the principles of Andragogy advocate adult learners best learning when there is a practical application of the learning subject. Therefore, this course builds upon the study of leadership theory by allowing students to analyze, reflect, synthesize, and apply leadership theories, models and concepts in the context of film. The course materials encourage students to reflect, synthesize, analyze, and apply the information learned from major leadership theories and apply them to various scenarios and situations demonstrated in selected films. Graduate degree credit will not be given for both AGED 4153 and AGED 5153. Prerequisite: AGED 3153 or AGED 4153 or AGED 5153 (formerly AGED 4153) or instructor consent.

**AGED 520V. Special Topics in Agricultural and Extension Education (Irregular). 1-4 Hour.**

Topics not covered in other courses or a more intensive study of specific topics in agriculture education. Prerequisite: Graduate standing. May be repeated for degree credit.

**AGED 5243. Graphic Design in AFLS (Sp, Su, Fa). 3 Hours.**

(Formerly AGED 4243.) This course provides students with graphic design and software skills specific to industries in Agriculture, Food, and Life Sciences. Students will learn to use industry-standard software (InDesign, Photoshop, Illustrator, Microsoft Excel, etc.) to prepare text and graphics and package them for use in print production. Graduate degree credit will not be given for both AGED 4243 and AGED 5243. Prerequisite: AGME 2903 or ISYS 1123 or equivalent.

**AGED 5343. Communication Campaigns in Agriculture (Odd years, Sp). 3 Hours.**

(Formerly AGED 4343.) Students will develop understanding of the principles, practices and applications of social marketing, integrated marketing communications, advertising and public relations as they pertain to developing communication campaign strategies for the agricultural industry. Students will develop a communication campaign for an agricultural company and/or entity focused on a specific product or service. Graduate degree credit will not be given for both AGED 4343 and AGED 5343. Prerequisite: Graduate standing.

**AGED 5363. Educational Delivery Techniques (Irregular). 3 Hours.**

Students will learn to apply teaching and learning theory in the development of engaging instruction delivered through electronic media. The goal of the course is not to make experts in "programming" or "theory", but rather to prepare students with the knowledge/practical skills necessary to deliver curriculum through various methods. Prerequisite: Graduate standing.

**AGED 5443. Principles of Technological Change (Odd years, Fa). 3 Hours.**

(Formerly AGED 4443.) This course introduces a structured approach for dealing with the organizational and human aspects of technology transition, including the key concepts of resistance and change management, organizational change, communications, and processes by which professional change agents influence the introduction, adoption, and diffusion of technological change. This course may be offered as a web-based course. Graduate degree credit will not be given for both AGED 4443 and AGED 5443.

**AGED 5463. Research Methodology in the Social Sciences (Fa). 3 Hours.**

Logical structure and the method of science. Basic elements of research design; observation, measurement, analytic method, interpretation, verification, presentation of results. Applications to research in economic or sociological problems of agriculture and human environmental sciences. Prerequisite: Graduate standing. This course is cross-listed with HESC 5463.

**AGED 5473. Interpreting Social Data in Agriculture (Fa). 3 Hours.**

The development of competencies in analyzing, interpreting and reporting the results of analyses of social science data in agriculturally related professions. Students will select appropriate analysis techniques and procedures for various problems, analyze data, and interpret and report the results of statistical analyses in narrative and tabular form.

**AGED 5483. Technical Communication in the Social Sciences (Sp). 3 Hours.**

This course will provide students with the basic principles and techniques in communicating social science information relevant to human subject research in agriculture, natural resources, and life sciences to the general public. Communication processes covered in the course include audience identification, writing, editing, and production of social science-based materials for popular and refereed publications. Focus will also be placed on thesis preparation and writing and research manuscript development and dissemination of social science research. Web delivered course. Prerequisite: Graduate standing.

**AGED 550V. College Teaching in Agriculture and Related Disciplines (Irregular). 1-3 Hour.**

For students who are pursuing graduate degrees where emphasis is on preparation for a research career, but who also may desire or expect to teach. Provides theory and practice in planning and executing a college-level course.

**AGED 5543. Ag Publications (Even years, Sp). 3 Hours.**

(Formerly AGED 4543.) Students produce a magazine through classroom study mirroring a professional magazine staff and are provided an opportunity for their writing, advertisements, photographs and artwork to be published in the magazine. By using computer applications, students integrate various skills including writing, editing and layout in agricultural publications. Graduate degree credit will not be given for both AGED 4543 and AGED 5543.

**AGED 5563. Thesis Proposal Development (Fa). 3 Hours.**

The purpose of this course is to assist graduate students in the preparation of their thesis research proposal. Students will produce the first three chapters of their thesis by the end of the course. Prerequisite: AGED 5463 or HESC 5463.

**AGED 5632. Teaching Diverse Populations in Agricultural and Extension Education (Sp). 2 Hours.**

(Formerly AGED 4632.) This course is designed to provide pre-service teachers of agriculture with an understanding of teaching diverse populations as applied to problems of practice in agricultural and extension education. Graduate degree credit will not be given for both AGED 4632 and AGED 5632.

**AGED 575V. Internship in Agricultural Education (Sp, Su, Fa). 1-6 Hour.**

Scheduled practical field experiences under supervision of a professional practitioner in off-campus secondary school systems. Emphasis includes classroom preparation, teaching, and student evaluation.

**AGED 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Master's Thesis. Prerequisite: Graduate standing. May be repeated for degree credit.

## Agricultural Mechanization (AGME)

### Courses

**AGME 1611L. Fundamentals of Agricultural Systems Technology Laboratory (Fa). 1 Hour.**

Study of basic mathematical and physical science concepts important in the mechanization of agriculture. Laboratory required for agricultural education, communication and technology majors enrolled in AGME 1613, optional for others enrolled in AGME 1613. Corequisite: AGME 1613.

**AGME 1613. Fundamentals of Agricultural Systems Technology (Fa). 3 Hours.**

Introduction to basic physical concepts important in agricultural technical systems: applied mechanics, power and machinery management, structures and electrification, and soil and water conservation. Lecture 3 hours per week. Corequisite: AGME 1611L (for AECT Majors).

**AGME 2123. Metals and Welding (Sp, Fa). 3 Hours.**

An introduction to agricultural mechanics shop work to include hot and cold metal work, arc welding, and gas welding and cutting. Lecture 2 hours, laboratory 3 hours per week. Corequisite: Lab component.

**AGME 2903. Agricultural and Human Environmental Sciences Applications of Microcomputers (Sp, Su, Fa). 3 Hours.**

Lecture and laboratory assignments covering the contemporary use of microcomputers in agricultural, food and life sciences. Emphasis placed on learning to use selected, appropriate Microsoft (Windows, Word, Excel, PowerPoint and Access), email/Internet, and collaboration software packages.

**AGME 3042. Agricultural Construction Technology (Irregular). 2 Hours.**

Principles of building design and construction. Includes site selection calculating structural loads and computerized packages for building design. Safety practices, selection of building materials and determining costs are also included. Lecture is one hour and lab is two hours per week. Prerequisite: MATH 1203 and junior standing.

**AGME 3101L. Small Power Units/Turf Equipment Laboratory (Sp). 1 Hour.**

Testing, evaluation, and maintenance of engines, hydrostatic power transmission systems, and equipment commonly used in the turf and landscaping industries. Corequisite: AGME 3102. Prerequisite: MATH 1203.

**AGME 3102. Small Power Units/Turf Equipment (Sp). 2 Hours.**

Principles of operation, adjustment, repair, maintenance, and trouble shooting of small air-cooled engines and power units, including various engine systems, service and maintenance of turf equipment and machinery. Lecture 2 hours per week. Corequisite: AGME 3101L. Prerequisite: MATH 1203.

**AGME 3153. Surveying in Agriculture and Forestry (Fa). 3 Hours.**

Techniques and procedures normally used in determining areas and characterizing the topography of agricultural and forest lands. Includes basic concepts of surveying; use and care of level, transit, distance measuring equipment; topographic mapping and public land surveys.

**AGME 3173. Electricity in Agriculture (Sp). 3 Hours.**

Principles of electricity; wiring of home, farmstead and other agricultural structures; selection of electric motors and their care and application in the broad field of agriculture; lighting and special uses of electricity such as heating and electrical controls. Lecture 2 hours, laboratory 2 hours per week. Corequisite: Lab component.

**AGME 400V. Special Problems (Sp, Su, Fa). 1-6 Hour.**

Individual research or study in electrification, irrigation, farm power, machinery, or buildings. Prerequisite: Senior standing. May be repeated for up to 6 hours of degree credit.

**AGME 402V. Special Topics in Agricultural Mechanization (Irregular). 1-4 Hour.**

Topics not covered in other courses or a more intensive study of special topics in agricultural mechanization. May be repeated for degree credit.

**AGME 4203. Mechanized Systems Management (Even years, Fa). 3 Hours.**

Selection, sizing, and operating principles of agricultural machinery systems, including power sources. Cost analysis and computer techniques applied to planning and management of mechanized systems. Corequisite: Lab component. Prerequisite: MATH 1203.

**AGME 4973. Irrigation (Sp). 3 Hours.**

Methods of applying supplemental water to soils to supply moisture essential for plant growth, sources of water, measurement of irrigation water, pumps, conveyance structure, economics, and irrigation for special crops. Lecture 2 hours, laboratory 2 hours per week. Corequisite: Lab component.

**AGME 500V. Special Problems (Sp, Su, Fa). 1-6 Hour.**

(Formerly AGME 400V.) Individual research or study in electrification, irrigation, farm power, machinery, or buildings. Graduate degree credit will not be given for both AGME 400V and AGME 500V. May be repeated for up to 6 hours of degree credit.

**AGME 501V. Special Topics in Agricultural Mechanization (Irregular). 1-4 Hour.**

(Formerly AGME 402V.) Topics not covered in other courses or a more intensive study of special topics in agricultural mechanization. Graduate degree credit will not be given for both AGME 402V and AGME 501V. May be repeated for degree credit.

**AGME 5203. Mechanized Systems Management (Even years, Fa). 3 Hours.**

(Formerly AGME 4203.) Selection, sizing, and operating principles of agricultural machinery systems, including power sources. Cost analysis and computer techniques applied to planning and management of mechanized systems. Graduate degree credit will not be given for both AGME 4203 and AGME 5203. Corequisite: Lab component. Prerequisite: MATH 1203.

**AGME 5973. Irrigation (Sp). 3 Hours.**

(Formerly AGME 4973.) Methods of applying supplemental water to soils to supply moisture essential for plant growth, sources of water, measurement of irrigation water, pumps, conveyance structure, economics, and irrigation for special crops. Lecture 2 hours, laboratory 2 hours per week. Graduate degree credit will not be given for both AGME 4973 and AGME 5973. Corequisite: Lab component.

## Agricultural Statistics (AGST) Courses

**AGST 4011. SAS Programming for Agricultural Sciences (Sp, Fa). 1 Hour.**

An introduction to the SAS programming language with an emphasis on the reading and restructuring of data files, and the displaying of data in tabular and graphic forms. The course is taught using a hands-on approach.

**AGST 4023. Principles of Experimentation (Fa). 3 Hours.**

Fundamental concepts of experimental and statistical methods as applied to agricultural research. Lecture 3 hours per week. Prerequisite: MATH 1203 or higher level.

**AGST 500V. Special Problems (Sp, Su, Fa). 1-6 Hour.**

Individual investigation of a special problem in some area of statistics applicable to the agricultural, food, environmental, and life sciences not available under existing courses. May be repeated for up to 6 hours of degree credit.

**AGST 5014. Experimental Design (Sp). 4 Hours.**

Types of experimental designs, their analysis and application to agricultural research. Lecture 3 hours and laboratory 2 hours per week. Corequisite: Lab component. Prerequisite: ((AGST 4011 or AGST 5031 (formerly AGST 4011)) and ((AGST 4023 or AGST 5023 (formerly AGST 4023) or STAT 4003).

**AGST 5023. Principles of Experimentation (Sp, Su, Fa). 3 Hours.**

(Formerly AGST 4023.) Fundamental concepts of experimental and statistical methods as applied to agricultural research. Lecture 3 hours per week.

**AGST 5031. SAS Programming for Agricultural Sciences (Sp, Fa). 1 Hour.**

(Formerly AGST 4011.) An introduction to the SAS programming language with an emphasis on the reading and restructuring of data files, and the displaying of data in tabular and graphic forms. The course is taught using a hands-on approach. Graduate degree credit will not be given for both AGST 4011 and AGST 5031.

**AGST 504V. Special Topics (Irregular). 1-4 Hour.**

Topics not covered in other courses or a broader-based study of specific topics in statistics and related areas. Prerequisite: Graduate standing. May be repeated for degree credit.

**AGST 5713. Applied Regression Analysis for Agricultural Sciences (Fa). 3 Hours.**

Analysis of agricultural experiments which contain quantitative factors through regression procedures. Lecture 3 hours per week. Prerequisite: ((AGST 4011 or AGST 5031 (formerly AGST 4011)) and ((AGST 4023 or AGST 5023 (formerly AGST 4023) or STAT 4003).

**AGST 5901. Statistical Consulting Process (Sp). 1 Hour.**

Examines the components of statistical consulting with emphasis on the interpersonal aspects.

## Agriculture, Food and Life Sciences (AFLS)

### Courses

**AFLS 1023H. Bumpers College Honors Program Perspectives (Fa). 3 Hours.**

This course is intended to meet the requirements of UNIV 1001 and provide Bumpers College Honors students with an overview of the Honors Program as well as provide insight into research and creative project development and expectations. Pre- or Corequisite: Honors standing.

This course is equivalent to AFLS 1011.

**AFLS 1600. Undergraduate Research Assistant (Sp, Su, Fa). 0 Hours.**

Undergraduate research.

**AFLS 2600. Undergraduate Research Assistant (Sp, Su, Fa). 0 Hours.**

Undergraduate research.

**AFLS 3413H. Honors Proposal Development and Research Methods (Sp, Fa). 3 Hours.**

This course will include creative process, ethics, proposal writing, literature review, qualitative and quantitative/experimental design, scientific theory and methods, data collection, and analysis. At the end of this course, students will have developed a proposal for their Honors thesis. The course also offers an opportunity for students to present their proposals orally as preparation for their proposal meeting. Prerequisite: Sophomore, junior or senior standing.

**AFLS 3600. Undergraduate Research Assistant (Sp, Su, Fa). 0 Hours.**

Undergraduate research.

**AFLS 3993. Professional Growth and Critical Career Skills (Fa). 3 Hours.**

The MERIT Profile will be utilized to identify students behavioral and character profiles so they may "know themselves" based upon strengths and tendencies. Throughout the term, students will be engaged in topics to help them identify their core values and strengths and develop their weaknesses. Course topics will include: adjusting to mistakes, cast off the negatives, verifying your values, scheduling priorities, building character, framing decisions/choices, personal improvement plans, and more. Upon course completion students should be able to utilize personal leadership approaches, strategic thinking and behavior, critical thinking and problem identification techniques and verbal and written communication to effectively convey their suitability specific feasible careers. Prerequisite: Junior standing.

**AFLS 400VH. Honors Thesis (Sp, Su, Fa). 1-6 Hour.**

May be repeated for up to 6 hours of degree credit.

**AFLS 401V. Special Topics in AFLS (Irregular). 1-6 Hour.**

Studies of selected topics not covered in other courses. May be repeated for up to 6 hours of degree credit.

**AFLS 401VH. Honors Special Topics (Irregular). 1-6 Hour.**

Studies of selected topics not covered in other courses. Must be in the Honors program to register for this course. May be repeated for up to 6 hours of degree credit.

**AFLS 403V. Special Problems (Irregular). 1-6 Hour.**

Individual study or research for advanced undergraduates. Corequisite: Instructor consent. May be repeated for up to 6 hours of degree credit.

**AFLS 403VH. Honors Special Problems (Irregular). 1-6 Hour.**

Individual study or research for advanced undergraduates. Corequisite: Instructor consent and honors standing. May be repeated for up to 6 hours of degree credit.

**AFLS 4600. Undergraduate Research Assistant (Sp, Su, Fa). 0 Hours.**

Undergraduate research.

**AFLS 501V. Special Topics (Irregular). 1-3 Hour.**

Studies of selected topics not covered in other courses. May be repeated for up to 6 hours of degree credit.

## Air Force ROTC (AERO) Courses

**AERO 1011. The Foundations of the United States Air Force I (Fa). 1 Hour.**

A survey course designed to introduce cadets to the United States Air Force and Air Force Reserve Officer Training Corps. Topics include: mission and organization of the Air Force, officership and professionalism, military customs and courtesies, Air Force officer opportunities, and an introduction to communication skills. Leadership LAB mandatory for cadets. Corequisite: Lab component.

**AERO 1021. The Foundations of the United States Air Force II (Sp). 1 Hour.**

A survey course designed to introduce cadets to the United States Air Force and Air Force Reserve Officer Training Corps. Topics include: mission and organization of the Air Force, officership and professionalism, military customs and courtesies, Air Force officer opportunities, and an introduction to communication skills. Leadership LAB mandatory for cadets. Corequisite: Lab component.

**AERO 2011. The Evolution of Air and Space Power I (Fa). 1 Hour.**

This historical survey features topics on Air Force heritage and leaders; introduction to air power through examination of the Air Force Core Functions and continued application of communication skills. Its purpose is to instill an appreciation of the development and employment of air power and to motivate sophomore students to transition from AFROTC cadet to Air Force ROTC officer candidate. Corequisite: Lab component.

**AERO 2021. The Evolution of Air and Space Power II (Sp). 1 Hour.**

This historical survey features topics on Air Force heritage and leaders; introduction to air power through examination of the Air Force Core Functions and continued application of communication skills. Its purpose is to instill an appreciation of the development and employment of air power and to motivate sophomore students to transition from AFROTC cadet to Air Force officer candidate. Corequisite: Lab component.

**AERO 3013. Air Force Leadership Studies I (Fa). 3 Hours.**

A study of leadership, management fundamentals, professional knowledge, Air Force personnel and evaluation systems, leadership ethics, and the communication skills required of an Air Force junior officer. Case studies are used to examine Air Force leadership and management situations. Corequisite: Lab component.

**AERO 3023. Air Force Leadership Studies II (Sp). 3 Hours.**

A study of leadership, management fundamentals, professional knowledge, Air Force personnel and evaluation systems, leadership ethics, and the communication skills required of an Air Force junior officer. Case studies are used to examine Air Force leadership and management situations. Corequisite: Lab component.

**AERO 4013. National Security Affairs and Preparation for Active Duty I (Fa). 3 Hours.**

Examines the national security process, regional studies, advanced leadership ethics, and Air Force doctrine. Special topics of interest focus on the military as a profession, officership, military justice, civilian control of the military, preparation for active duty, and current issues affecting military professionalism. Communication skills are honed within this structure. Corequisite: Lab component.



**AERO 4023. National Security Affairs and Preparation for Active Duty II (Sp). 3 Hours.**

Examines the national security process, regional studies, advanced leadership ethics, and Air Force doctrine. Special topics of interest focus on the military as a profession, officership, military justice, civilian control of the military, preparation for active duty, and current issues affecting military professionalism. Communication skills are honed within this structure. Corequisite: Lab component.

## Animal Science (ANSC) Courses

**ANSC 1001L. Introductory to Animal Sciences Laboratory (Sp, Fa). 1 Hour.**

Study of facilities used in production, processing, and management in animal agriculture. Identification, selection evaluation and testing of livestock, meat, and milk. Laboratory 3 hours per week.

**ANSC 1032. Introductory Animal Sciences (Sp, Fa). 2 Hours.**

Students will be introduced to biological sciences associated with modern systems of care and management of livestock. Foundation sciences include topics in genetics, growth and development, physiology, nutrition, animal health, and animal behavior. Fall and spring semester.

**ANSC 1032H. Honors Introductory Animal Sciences (Sp, Fa). 2 Hours.**

Students will be introduced to biological sciences associated with modern systems of care and management of livestock. Foundation sciences include topics in genetics, growth and development, physiology, nutrition, animal health, and animal behavior. Fall and spring semester.

**ANSC 1041. Introduction to Companion Animal Industry (Sp, Fa). 1 Hour.**

The importance of companion animals and their allied industries will be discussed. Application of scientific principles to the care and management of companion animals, specifically dogs, cats and horses, will be emphasized. Course will meet first eight weeks of the fall and spring semesters.

**ANSC 1051. Introduction to the Livestock Industry (Sp, Fa). 1 Hour.**

The importance of livestock and their allied industries will be discussed. Application of scientific principles to the care and management of livestock, specifically beef and dairy cattle, swine, sheep, and goats will be emphasized. Meets second eight weeks for fall and spring.

**ANSC 1062. Sustainable Integrated Small Animal Farming (Sp). 2 Hours.**

Practical information on small scale animal production, including practical strategies for farm planning, issues of economic and environmental sustainability, best management practices, biosecurity, disease prevention, and farm safety will be presented.

This course is cross-listed with POSC 1062.

**ANSC 1123. The Animals in our Lives (Su). 3 Hours.**

Address the controversies and focus on animal welfare, environmental issues and sustainability.

This course is cross-listed with POSC 1123.

**ANSC 2003. Introduction to Equine Industry (Sp). 3 Hours.**

Examination of careers and business opportunities in the equine industry. Students will gain the opportunity to identify high quality horses through evaluation of conformation and locomotion. Students will also gain skill at oral presentation and be knowledgeable of costs and responsibilities associated with horse ownership.

**ANSC 2213. Behavior of Domestic Animals (Fa). 3 Hours.**

Behavior associated with domestication. Effects of selective breeding, physical and social environments, and developmental stage on social organization, aggressive behavior, sexual behavior, productivity, and training of domestic animals.

**ANSC 2252L. Introduction to Livestock and Meat Evaluation (Sp). 2 Hours.**

Develop an understanding between live animal evaluation and carcass composition. Comparative judging including meat evaluation, classification and selection of beef cattle, sheep and swine.

**ANSC 2303. Introduction to Horsemanship (Sp, Fa). 3 Hours.**

A study of modern horsemanship training techniques involving the psychology and ethology (reason for the behavior) of equine social behavior and how it pertains to learning patterns; application of fundamental behavioral concepts in training of horses, and modification of desirable and undesirable behavioral patterns. Prerequisite: Instructor consent.

**ANSC 2781. Career Preparation and Development (Fa). 1 Hour.**

The importance of preparing for a career in the animal sciences and industries will be covered.

**ANSC 3003. Applied Animal Parasitology (Even years, Sp, Fa). 3 Hours.**

The economically important parasites of domestic animals with emphasis on their host relationships and management considerations. Lecture 2 hours, laboratory 2 hours per week. Corequisite: Lab component.

**ANSC 3013. Parasitisms of Domesticated Non-Herbivores (Odd years, Sp, Fa). 3 Hours.**

Course will provide applied instruction and appreciation for the parasitisms of our domesticated swine, chickens, turkeys, dogs and cats.

**ANSC 3032. Animal Physiology I (Fa). 2 Hours.**

Fundamental aspects of neural/muscle/bone tissues and the cardiovascular system. The normal structure and functions of these systems will be emphasized. Lecture 2 hours per week. Prerequisite: BIOL 1543 and (CHEM 1123 or CHEM 1073). This course is cross-listed with POSC 3032.

**ANSC 3032H. Honors Animal Physiology I (Fa). 2 Hours.**

Fundamental aspects of neural/muscle/bone tissues and the cardiovascular system. The normal structure and functions of these systems will be emphasized. Lecture 2 hours per week. Prerequisite: BIOL 1543 and (CHEM 1123 or CHEM 1073). This course is cross-listed with ANSC 3032, POSC 3032.

**ANSC 3042. Animal Physiology II (Sp). 2 Hours.**

Fundamental aspects of renal, respiratory, digestive, and endocrine physiology will be covered. The normal structure and function of these systems will be emphasized. Lecture 2 hours per week. Prerequisite: BIOL 1543 and CHEM 1123 or CHEM 1073. This course is cross-listed with POSC 3042.

**ANSC 3072. Equine Selection and Evaluation (Sp). 2 Hours.**

Students will learn criteria for evaluation and selection of breeding and show animals and will gain expertise in the evaluation of breed types and show ring characteristics. Includes field trips to various breed operations. Students in this class will be well prepared to participate in equine judging team activities. Prerequisite: Instructor consent.

**ANSC 3123. Principles of Genetics (Fa). 3 Hours.**

Fundamentals of heredity, with special emphasis on the improvement of farm animals. Lecture 3 hours per week. Prerequisite: BIOL 1543 and MATH 1203 or higher.

This course is cross-listed with POSC 3123.

**ANSC 3133. Animal Breeding and Genetics (Sp). 3 Hours.**

Application of the principles of genetics to the breeding of farm animals. Lecture 3 hours per week. Prerequisite: MATH 1203.

**ANSC 3143. Principles of Animal Nutrition (Sp). 3 Hours.**

Scientific approach to animal nutrition involving the mechanisms through which feed nutrients are utilized by farm animals. Lecture 3 hours per week. Prerequisite: ANSC 1032.

**ANSC 3151L. Applied Animal Nutrition Laboratory (Fa). 1 Hour.**

Practical approach to animal nutrition; use of various methods of feedstuff evaluation and ration balancing for domestic animals. Laboratory 2 hours per week. Corequisite: ANSC 3152. Prerequisite: ANSC 3143 and MATH 1203.

**ANSC 3152. Applied Animal Nutrition (Fa). 2 Hours.**

Practical approach to animal nutrition; physical and chemical composition of feedstuffs, feed processing and preparation, nutrient interactions, and application of nutritional principles to feeding domestic animals. Lecture 2 hours per week. Corequisite: ANSC 3151L. Prerequisite: ANSC 3143 and MATH 1203.

**ANSC 3282. Livestock Judging and Selection (Fa). 2 Hours.**

Comparative judging, including grading, classification, and selection of beef cattle, swine, sheep and horses. Oral and written discussion. Laboratory 6 hours per week. Prerequisite: ANSC 1032 or ANSC 2252L.

**ANSC 3291. Livestock Junior Judging Team Activity (Sp). 1 Hour.**

Training for membership on judging teams, through participation.

**ANSC 3333. Diseases of Livestock (Sp). 3 Hours.**

Introductory study of the diseases of farm animals with emphasis on fundamental principles of disease, body defense mechanisms, hygiene, and sanitation. Prerequisite: BIOL 1543.

**ANSC 3433. Fundamentals of Reproductive Physiology (Fa). 3 Hours.**

Principles of mammalian reproductive physiology with emphasis on farm animals. Lecture 3 hours per week. Pre- or Corequisite: ((CHEM 1073 and CHEM 1071L) or (CHEM 1123 and CHEM 1121L) or (CHEM 2613 and CHEM 2611L) or (CHEM 3603 and CHEM 3601L) ) and ANSC 2252L and ANSC 2781 and BIOL 2013 and BIOL 2011L. Prerequisite: BIOL 1543.

**ANSC 3491L. Artificial Insemination in Cattle (Sp). 1 Hour.**

Experience with artificial insemination technique in cattle including estrus detection, semen storage and handling, insemination equipment maintenance and technique. Laboratory 4 hours per week. The course is offered the second 8 weeks of the spring semester. Prerequisite: ANSC 3433 or instructor consent.

**ANSC 3513. Current Approaches in Agricultural Laboratory Research (Even years, Sp). 3 Hours.**

A laboratory course to introduce students to current laboratory research techniques used in agricultural and life sciences. Hands-on laboratory exercises will emphasize current cellular and molecular research techniques, laboratory notebook keeping, data interpretation, and presentation of results. Prerequisite: BIOL 1543.

**ANSC 3613. Meat Science (Fa). 3 Hours.**

The study of meat science and muscle biology. Topics will include animal/tissue growth and development and the relationship to meat quality. Meat processing, preservation, and meat safety concerns will also be considered. Lecture 3 hours per week. Prerequisite: CHEM 2613 or CHEM 3603.

**ANSC 3723. Horse and Livestock Merchandising (Fa). 3 Hours.**

Various types of merchandising programs for specific livestock enterprises will be presented. Students will evaluate the effectiveness of merchandising programs including how to organize, advertise, and manage a purebred auction sale of livestock.

**ANSC 400V. Special Problems (Sp, Su, Fa). 1-6 Hour.**

Special problems in the animal sciences for advanced undergraduate students. May be repeated for up to 6 hours of degree credit.

**ANSC 401V. Internship in Animal Sciences (Sp, Su, Fa). 1-6 Hour.**

Supervised work experience with private or government organizations Prerequisite: Junior standing. May be repeated for up to 6 hours of degree credit.

**ANSC 4072. Advanced Equine Selection and Evaluation (Fa). 2 Hours.**

Advanced evaluation and selection of breeding and show animals, evaluation of breed types and show characteristics. Field trips to breeding operations. Competitive Judging team members come from this course and participation in competitive events will be required. Prior equine evaluation is not necessary, but instructor consent is required. Some Saturday activities. Prerequisite: ANSC 3072 or instructor consent.

**ANSC 410V. Special Topics in Animal Sciences (Irregular). 1-4 Hour.**

Topics not covered in other courses or a more intensive study of specific topics in animal sciences. May be repeated for degree credit.

**ANSC 410VH. Honors Special Topics in Animal Sciences (Irregular). 1-4 Hour.**

Topics not covered in other courses or a more intensive study of specific topics in animal sciences. Prerequisite: Honors standing. May be repeated for degree credit.

**ANSC 4123. Legal Issues in Animal Agriculture (Odd years, Sp). 3 Hours.**

An issues-oriented course focusing on the legal issues involved in the production of poultry, swine and livestock. Emphasis will center on the laws, regulations and policy arguments involved in animal confinement, antibiotic use, humane slaughter and veterinary medicine, along with other related issues. The wide range of regulation- from local to state to federal, depending on the issue- will be studied and discussed. This course is cross-listed with AGEC 4123, POSC 4123.

**ANSC 4142. Advanced Animal Handling Techniques (Sp, Fa). 2 Hours.**

This course is designed to familiarize students with handling techniques of a variety of animals, including cattle, sheep, horses, pigs, dogs, and others. Students will learn and practice handling, restraint, and common husbandry procedures with a variety of domestic species. The course will provide valuable preparation for careers in livestock management, vet medicine, animal-based research, and other fields in animal science. Prerequisite: Junior standing or consent.

**ANSC 4173. Thoroughbred Horse Industry (Odd years, Sp). 3 Hours.**

This course is designed to give you an overview of the Thoroughbred breed and industry. Students will gain an understanding of the Thoroughbred industry, its history, and modern practices. Students will also gain an understanding of career potential in the Thoroughbred industry. Prerequisite: Instructor consent and Junior or Senior standing.

**ANSC 4252. Cow-Calf Management (Fa). 2 Hours.**

Systems of cow-calf management including the practical application of the principles of breeding, feeding, and management to commercial and purebred beef cattle under Arkansas conditions. Prerequisite: AFLS BSA students with ANSC 1032 and Junior standing or higher.

**ANSC 4262. Swine Production (Even years, Fa). 2 Hours.**

Methods in producing purebred and commercial swine with specific emphasis on the management programs needed for profitable pork production in Arkansas. Pre- or Corequisite: AFLS BSA students with ANSC 1032 and Junior standing or higher.

**ANSC 4272. Sheep Production (Odd years, Sp). 2 Hours.**

Purebred and commercial sheep management emphasizing the programs of major importance in lamb and wool production in Arkansas. Prerequisite: AFLS BSA students with ANSC 1032 and Junior standing or higher.

**ANSC 4283. Horse Production (Sp). 3 Hours.**

Production, use and care of horses and ponies including breeding, feeding, handling, and management. Lecture 2 hours, laboratory 3 hours per week. Corequisite: Lab component. Prerequisite: Junior standing or higher.

**ANSC 4291. Livestock Senior Judging Team Activity (Fa). 1 Hour.**

Training for membership on judging teams, through participation.

**ANSC 4303. Comparative Veterinary Anatomy (Sp). 3 Hours.**

Study of structures and principles of anatomy of major domestic species. The dog, horse, and cow will be used as models for anatomical structures and the application of anatomical knowledge in animal science; focus on veterinary applications. 3 hours of lecture each week. Spring semesters. Corequisite: Lab component. Prerequisite: ANSC 1032 or BIOL 1543, junior standing or instructor consent.

**ANSC 4452. Milk Production (Sp). 2 Hours.**

Principles of breeding, feeding, and management of dairy cattle will be studied. Prerequisite: AFLS BSA students with ANSC 1032 and Junior standing or higher.

**ANSC 4482. Companion Animal Management (Fa). 2 Hours.**

The study and application of principles of domestication, nutrition, reproduction, parasitology, diseases, behavior, and husbandry management to companion animals. Dogs, cats, and exotic animals will be the species of primary interest. Practical problems of care and management of these species will be solved. Prerequisite: BIOL 1543 or equivalent or consent of instructor.

**ANSC 4552. Forage-Ruminant Relations (Odd years, Sp). 2 Hours.**

Chemical, physical, and botanical characteristics of forage plants, the dynamics of grazing, intake, digestion, behavior, and nutrient cycling at the plant-animal interface. CSES 1203 recommended. Prerequisite: ANSC 3143.

**ANSC 4652. Stocker-Feedlot Cattle Management (Sp). 2 Hours.**

Production and management systems for stocker and feed-lot cattle including practical applications of forage systems, feeding, health management and economics of production of these livestock. Prerequisite: AFLS BSA students with ANSC 1032 and Junior standing or higher.

**ANSC 4923. Brain & Behavior (Fa). 3 Hours.**

Covers cellular through neural systems, major brain functions and comparative neuroanatomy. Topics include ion channels, membrane and action potentials, synaptic integration, neurotransmitters, major brain regions of mammals and birds, sensory systems and the autonomic nervous systems, neuroendocrine system, and control by the brain of critical functions and behavior. Lecture 3 hours per week. Prerequisite: (ANSC 3032 or POSC 3032) or (ANSC 3042 or POSC 3042) or PSYC 2003 or BIOL 2213 or BIOL 2443 or BIOL 2533.

This course is cross-listed with POSC 4923.

**ANSC 500V. Special Problems (Sp, Su, Fa). 1-6 Hour.**

Work in special problems of animal industry. May be repeated for up to 6 hours of degree credit.

**ANSC 5013. Domestic Animal Energetics (Odd years, Sp). 3 Hours.**

Physical, physiological and biochemical aspects of energy metabolism of domestic animals and their applications to livestock production. Lecture 3 hours per week. Prerequisite: Graduate standing.

**ANSC 5023. Legal Issues in Animal Agriculture (Odd years, Sp). 3 Hours.**

(Formerly ANSC 4123.) An issues-oriented course focusing on the legal issues involved in the production of poultry, swine and livestock. Emphasis will center on the laws, regulations and policy arguments involved in animal confinement, antibiotic use, humane slaughter and veterinary medicine, along with other related issues. The wide range of regulation- from local to state to federal, depending on the issue- will be studied and discussed. Graduate degree credit will not be given for both ANSC 4123 and ANSC 5023.

**ANSC 5052. Cow-Calf Management (Fa). 2 Hours.**

(Formerly ANSC 4252.) Systems of cow-calf management including the practical application of the principles of breeding, feeding, and management to commercial and purebred beef cattle under Arkansas conditions. Graduate degree credit will not be given for both ANSC 4252 and ANSC 5052.

**ANSC 510V. Special Topics in Animal Sciences (Irregular). 1-4 Hour.**

Topics not covered in other courses or a more intensive study of specific topics in animal sciences. Prerequisite: Graduate standing. May be repeated for degree credit.

**ANSC 5123. Advanced Animal Genetics (Even years, Fa). 3 Hours.**

Specialized study of animal genetics. Lecture 3 hours per week. Prerequisite: ANSC 3123.

This course is cross-listed with POSC 5123.

**ANSC 5133. Quantitative Inheritance (Odd years, Sp). 3 Hours.**

Advanced study of the genetic basis of variation and the genetic control of quantitative traits in populations. Lecture 3 hours per week. Prerequisite: ANSC 3133.

**ANSC 5143. Biochemical Nutrition (Even years, Fa). 3 Hours.**

Interrelationship of nutrition and physiological chemistry; structure and metabolism of physiological significant carbohydrates, lipids, and proteins; integration of metabolism with provision of tissue fuels; specie differences in regulatory control of tissue and whole body metabolism of nutrients. Prerequisite: CHEM 3813.

This course is cross-listed with POSC 5143.

**ANSC 5152. Protein and Amino Acid Nutrition (Even years, Sp). 2 Hours.**

Students will be introduced to the basic processes of protein digestion, amino acid absorption, transport, metabolism, and utilization along with how biochemical function of proteins and their dynamic state affect nutritional status for animals and man. Prerequisite: CHEM 3813.

This course is cross-listed with POSC 5152.

**ANSC 5253. Advanced Livestock Production (Irregular). 3 Hours.**

Comprehensive review of recent advances in research relative to the various phases of livestock production.

**ANSC 5262. Swine Production (Even years, Fa). 2 Hours.**

(Formerly ANSC 4262.) Methods in producing purebred and commercial swine with specific emphasis on the management programs needed for profitable pork production in Arkansas. Graduate degree credit will not be given for both ANSC 4262 and ANSC 5262.

**ANSC 5272. Sheep Production (Odd years, Sp). 2 Hours.**

(Formerly ANSC 4272.) Purebred and commercial sheep management emphasizing the programs of major importance in lamb and wool production in Arkansas. Graduate degree credit will not be given for both ANSC 4272 and ANSC 5272.

**ANSC 5283. Horse Production (Sp). 3 Hours.**

(Formerly ANSC 4283.) Production, use and care of horses and ponies including breeding, feeding, handling, and management. Lecture 2 hours, laboratory 3 hours per week. Graduate degree credit will not be given for both ANSC 4283 and ANSC 5283. Corequisite: Lab component.

**ANSC 5452. Milk Production (Sp). 2 Hours.**

(Formerly ANSC 4452.) Principles of breeding, feeding, and management of dairy cattle will be studied. Graduate degree credit will not be given for both ANSC 4452 and ANSC 5452.

**ANSC 5482. Companion Animal Management. 2 Hours.**

(Formerly ANSC 4482.) The study and application of principles of domestication, nutrition, reproduction, parasitology, diseases, behavior, and husbandry management to companion animals. Dogs, cats, and exotic animals will be the species of primary interest. Practical problems of care and management of these species will be solved. Graduate degree credit will not be given for both ANSC 4482 and ANSC 5482. Prerequisite: BIOL 1543 or equivalent or consent of instructor.

**ANSC 5553. Forage-Ruminant Relations (Odd years, Sp). 3 Hours.**

Advanced chemical, physical, and botanical characteristics of forage plants, the dynamics of grazing, intake and digestion, and techniques of measuring forage utilization and systems analysis at the plant-animal interface. Lecture 3 hours per week. CSES 1203 recommended. Prerequisite: ANSC 3143.

This course is cross-listed with CSES 5553.

**ANSC 5652. Stocker-Feedlot Cattle Management (Sp). 2 Hours.**

(Formerly ANSC 4652.) Production and management systems for stocker and feed-lot cattle including practical applications of forage systems, feeding, health management and economics of production of these livestock. Graduate degree credit will not be given for both ANSC 4652 and ANSC 5652.

**ANSC 5743L. Advanced Analytical Methods in Animal Sciences Laboratory (Fa). 3 Hours.**

Introduction into theory and application of current advanced analytical techniques used in animal research. Two 3-hour laboratory periods per week. This course is cross-listed with POSC 5743L.

**ANSC 5853. Advanced Meats Technology (Even years, Sp). 3 Hours.**

An intensive study of processed meats, relating the science, technology, and quality of further processed meat and poultry products. Product development, sensory and chemical analysis, microbiology, nutritional aspects, and product labeling are covered. Prerequisite: POSC 4314 or ANSC 3613.

**ANSC 5901. Seminar (Fa). 1 Hour.**

Critical review of the current scientific literature pertaining to the field of animal science. Oral reports. Lecture 1 hour per week. Prerequisite: Senior standing.

**ANSC 5923. Brain & Behavior (Fa). 3 Hours.**

Covers cellular through neural systems, major brain functions and comparative neuroanatomy. Topics include ion channels, membrane and action potentials, synaptic integration, neurotransmitters, major brain regions of mammals and birds, sensory systems and the autonomic nervous systems, neuroendocrine system, and control by the brain of critical functions and behavior. Lecture 3 hours per week. Prerequisite: (ANSC 3032 or POSC 3032) or (ANSC 3042 or POSC 3042) or PSYC 2003 or BIOL 2213 or BIOL 2443 or BIOL 2533. This course is equivalent to POSC 5923.

**ANSC 5932. Cardiovascular Physiology of Domestic Animals (Fa). 2 Hours.**

Cardiovascular physiology, including mechanisms of heart function and excitation, and blood vessel mechanisms associated with the circulatory system in domestic animals and poultry. Lecture 3 hours; drill 1 hour per week (for second 8 weeks of semester). Pre- or Corequisite: CHEM 3813. Corequisite: Drill component. Prerequisite: (POSC 3032 or ANSC 3032) and (POSC 3042 or ANSC 3042). This course is cross-listed with POSC 5932.

**ANSC 5942. Endocrine Physiology of Domestic Animals (Fa). 2 Hours.**

Endocrine physiology, including mechanisms of hormone secretion, function, and regulation. Mechanisms associated with the endocrine system will be discussed for domestic animals and poultry. Lecture 3 hours; drill 1 hour per week (or first 8 weeks of semester). Pre- or Corequisite: CHEM 3813. Corequisite: Drill component. Prerequisite: (POSC 3032 or ANSC 3032) and (POSC 3042 or ANSC 3042). This course is cross-listed with POSC 5942.

**ANSC 5952. Respiratory Physiology of Domestic Animals (Sp). 2 Hours.**

Respiratory physiology, including mechanisms of lung function and gas exchange. Mechanisms associated with the interaction of the respiratory system with other bodily systems in domestic animals and poultry will be discussed. Lecture 3 hours; drill 1 hour per week for first 8 weeks of semester. Pre- or Corequisite: CHEM 3813. Corequisite: Drill component. Prerequisite: (POSC 3032 or ANSC 3032) and (POSC 3042 or ANSC 3042). This course is cross-listed with POSC 5952.

**ANSC 5962. Gastrointestinal/Digestive Physiology of Domestic Animals (Fa). 2 Hours.**

Gastrointestinal and hepatic physiology, including mechanisms of digestion, absorption of nutrients with emphasis on cellular control mechanisms in domestic animals and poultry. Lecture 3 hours; drill 1 hour per week (for second 8 weeks of semester). Pre- or Corequisite: CHEM 3813. Corequisite: Drill component. Prerequisite: (POSC 3032 or ANSC 3032) and (POSC 3042 or ANSC 3042). This course is cross-listed with POSC 5962.

**ANSC 5972. Renal Physiology (Sp). 2 Hours.**

Renal physiology, including mechanisms of renal clearance with emphasis on cellular control mechanisms in domestic animals and poultry. Lecture 3 hours; drill 1 hour per week (for second 8 weeks of semester). Pre- or Corequisite: CHEM 3813. Corequisite: Drill component. Prerequisite: (POSC 3032 or ANSC 3032) and (POSC 3042 or ANSC 3042). This course is cross-listed with POSC 5972.

**ANSC 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Master's Thesis. Prerequisite: Graduate standing. May be repeated for degree credit.

**ANSC 6123. Advanced Food Animal Wellbeing (Sp). 3 Hours.**

Advances in fundamentals of animal welfare including animal health, animal handling, food safety and productivity. Prerequisite: ANSC 2213 or BIOL 4833 or instructor consent. This course is cross-listed with POSC 6123.

**ANSC 6143. Minerals in Animal Nutrition (Even years, Sp, Fa). 3 Hours.**

Mineral nutrients, their sources and functions, as related to nutrition of domestic animals. Lecture 3 hours per week. Prerequisite: ANSC 3143 or POSC 4343.

**ANSC 6243. Ruminant Nutrition (Odd years, Fa). 3 Hours.**

Anatomy and physiology of the rumen. The nutrient requirements of microbial organisms and the relation of microbial digestion in the rumen to the nutrition of cattle, sheep and other ruminants. Lecture 3 hours per week. Prerequisite: Graduate standing.

**ANSC 6343. Vitamin Nutrition in Domestic Animals (Even years, Sp). 3 Hours.**

The vitamins required by domestic animals with emphasis upon their role in animal nutrition, physiological functions, and consequences of failure to meet the requirement of the animal. Lecture 3 hours per week. Prerequisite: ANSC 3143 (or POSC 4343) and CHEM 3813. This course is cross-listed with POSC 6343.

**ANSC 6833. Reproduction in Domestic Animals (Even years, Sp). 3 Hours.**

Comprehensive review of current theory of reproductive function in domestic animals. Lecture 3 hours per week. Prerequisite: ANSC 3433.

**ANSC 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Doctoral Dissertation. Prerequisite: Graduate standing. May be repeated for degree credit.

## Anthropology (ANTH) Courses

**ANTH 1011L. Introduction to Biological Anthropology Laboratory (Fa). 1 Hour.**

Laboratory exercises illustrating concepts of physical anthropology. Corequisite: ANTH 1013.

**ANTH 1011M. Honors Introduction to Biological Anthropology Laboratory (Fa). 1 Hour.**

Laboratory exercises illustrating concepts of physical anthropology. Corequisite: ANTH 1013.

This course is equivalent to ANTH 1011L.

**ANTH 1013. Introduction to Biological Anthropology (Sp, Su). 3 Hours.**

An introduction to the field of physical anthropology using human evolution as a unifying concept. Areas include human genetics, race, speciation, primate evolution, and human variation and adaptation. Corequisite: ANTH 1011L.

**ANTH 1013H. Honors Introduction to Biological Anthropology (Fa). 3 Hours.**

An introduction to the field of physical anthropology using human evolution as a unifying concept. Areas include human genetics, race, speciation, primate evolution, and human variation and adaptation. Corequisite: ANTH 1011M.

This course is equivalent to ANTH 1013.

**ANTH 1023. Introduction to Cultural Anthropology (ACTS Equivalency = ANTH 2013) (Sp, Su, Fa). 3 Hours.**

Introduction to the nature of culture and its influence on human behavior and personality: comparative study of custom, social organization, and processes of change and integration of culture. Corequisite: Drill component.

**ANTH 1023H. Honors Introduction to Cultural Anthropology (Sp, Fa). 3 Hours.**

Introduction to the nature of culture and its influence on human behavior and personality; comparative study of custom, social organization, and processes of change and integration of culture.

This course is equivalent to ANTH 1023.

**ANTH 1033. Introduction to Archaeology (Sp, Fa). 3 Hours.**

Archaeology studies the human past through contextual analysis of artifacts, archaeological sites, and landscapes. This course introduces archaeological methods and theories, significant discoveries and current debates in the discipline. Corequisite: Lab component.

**ANTH 2013. Introduction to Latin American Studies (Irregular). 3 Hours.**

This course provides an interdisciplinary introduction to Latin America. Drawing on Latin American literature, history, sociology, and political science, the course examines the broad forces that have shaped the region.

This course is cross-listed with LAST 2013.

**ANTH 3003. World Prehistory (Irregular). 3 Hours.**

Survey of the prehistoric and early historic cultures of the Americas, Asia, and Africa.

**ANTH 3023. Approaches to Archeology (Sp). 3 Hours.**

Study of the field of archeology including method, theory, analysis and interpretation with substantive worldwide examples. Prerequisite: ANTH 1033.

**ANTH 3033. Egyptology (Irregular). 3 Hours.**

Explores multiple aspects of Ancient Egyptian civilization including chronology, art, religion, literature and daily life. Prerequisite: Junior standing.

**ANTH 3043. Bones, Bodies, and Brains in Evolutionary Perspective (Irregular). 3 Hours.**

This course will review the anatomy of the human body, comparing this anatomy with primates, mammals, and vertebrates, and it will consider how the major features of the human body emerged throughout evolution.

**ANTH 3123. The Anthropology of Religion (Sp). 3 Hours.**

An exploration of rituals, symbols, and rules that shape religious life. Religion is viewed broadly, considering activities that invoke powers beyond the reach of ordinary senses. Examining a variety of cultures, we explore what people say and do as they participate in activities such as magic, healing, pilgrimage, and contemporary religious movements.

**ANTH 3143. Language and Expressive Culture (Irregular). 3 Hours.**

This course explores the complex interrelationship of language, culture, and social identity. Verbal art and expressive culture are examined from a variety of anthropological perspectives. Topics include ethnographies of speaking, discourse analysis, cultural performances, and the performative aspects of oral expression.

This course is cross-listed with ENGL 3143, COMM 3143.

**ANTH 3163. Male and Female: A Cultural and Biological Overview (Fa). 3 Hours.**

A comparative study of male and female roles in culture in relation to human biology and socialization.

**ANTH 3173. Introduction to Linguistics (Irregular). 3 Hours.**

Introduction to language study with stress upon modern linguistic theory and analysis. Data drawn from various languages reveal linguistic universals as well as phonological, syntactic, and semantic systems of individual languages. Related topics: language history, dialectology, language and its relation to culture and society, the history of linguistic scholarship. Prerequisite: Junior standing.

This course is cross-listed with COMM 3173, ENGL 3173, WLLC 3173.

**ANTH 3213. Indigenous Peoples of North America: Anthropological Perspectives (Irregular). 3 Hours.**

An exploration of indigenous societies and cultures of North America from an anthropological perspective. Using examples from diverse Native Nations from the time of European contact to the present, we will examine colonialism and resistance, indigenous cosmologies, memory culture and oral tradition, and the politics of representation.

**ANTH 3263. Indians of Arkansas and the South (Odd years, Sp). 3 Hours.**

Study of the traditional lifeways and prehistoric backgrounds of Indians living in the Southern United States, including Arkansas.

**ANTH 3421L. Human Osteology Laboratory (Sp). 1 Hour.**

Laboratory exercises illustrating concepts of human osteology. Corequisite: ANTH 3423.

**ANTH 3423. Human Osteology (Sp). 3 Hours.**

Study of the human skeleton, identification of bones, allometric growth, sexual dimorphism, osteological genetic inheritance and environmental stresses. Lectures and demonstration. Corequisite: ANTH 3421L.

**ANTH 3433. Human Evolution (Fa). 3 Hours.**

A study of hominid evolution from origin to the present, including trends in comparative primate evolution and functional development of human form as a result of cultural and biological interaction.

**ANTH 3443. Criminalistics: Forensic Sciences (Irregular). 3 Hours.**

Introduction to forensics focused on the scientific analysis of physical and biological evidence encountered in criminal investigations. Chemical, microscopic, biological, and observational techniques employed in the analysis of material evidence are described, discussed, and illustrated within an investigative framework. Topics include inorganic remains, fiber, tissue, human identification, fingerprints, tools, and weapons.

**ANTH 3473. North American Prehistory (Irregular). 3 Hours.**

Survey of the aboriginal prehistory of the North American Continent north of Mexico.

**ANTH 3503. Power and Popular Protest in Latin America (Irregular). 3 Hours.**

This course focuses on the historical formation of Latin America by examining conflicts between the region's rich and poor. It includes both an historical perspective on the formation of ethnic, gender, and class relations in Latin America, and a discussion of contemporary social problems.

**ANTH 3523. Gender and Politics in Latin America (Irregular). 3 Hours.**

This course examines the ways in which political struggles surrounding land, labor, and the environment have been shaped by gender relations in Latin America. Why and how do peasant-workers engage their political worlds and how are such struggles shaped by gender?.

**ANTH 3533. Medical Anthropology (Irregular). 3 Hours.**

Survey of the interrelationship of human biology, culture and environment as reflected in disease experience from an evolutionary and cross cultural perspective. Special emphasis on stress.

**ANTH 3543. Geospatial Applications and Information Science (Sp, Fa). 3 Hours.**

An introduction to the methods and theory underlying the full range of geographic information science and collateral areas - including GNSS, remote sensing, cadastral, spatial demographics and others.

This course is cross-listed with GEOS 3543.

**ANTH 3553. Religion in Latin America (Irregular). 3 Hours.**

Examines contemporary implications of Latin America's unique religious heritage. An exploration of multiple Latin American religious traditions, with sustained focus on key theoretical concerns: conversion, vernacular vs. orthodox expressions, the blending of indigenous and European cosmologies, devotion and ritual, and the articulation of ethnic, gendered, and religious identities.

**ANTH 3563. Culture and Medicine (Irregular). 3 Hours.**

Study of health and medicine within cultural contexts, including attention to cross-cultural healers and healing systems. Special emphasis on biomedicine as a cultural system.

**ANTH 3573. Ballroom Culture and Performance in the West (Irregular). 3 Hours.**

This course focuses on competitive ballroom dancing in the West, highlighting issues of spectacle, sport, art, festival, ritual, dress, performance, identity, and gender construction.

**ANTH 3583. Body and Identity (Irregular). 3 Hours.**

This course explores personal, social and cultural constructions and performances of the body and identity, highlighting key intersections of embodiment including gender, race, sexuality and abilities.

This course is cross-listed with GNST 3583.

**ANTH 3903. Topics in Anthropology (Irregular). 3 Hours.**

Covers a special topic or issue. May be repeated for up to 12 hours of degree credit.

**ANTH 3923H. Honors Colloquium (Irregular). 3 Hours.**

Covers a special topic or issue, offered as part of the honors program. Prerequisite: honors candidacy (not restricted to candidacy in anthropology). May be repeated for degree credit.

**ANTH 399VH. Honors Thesis (Sp, Su, Fa). 1-6 Hour.**

Prerequisite: Junior standing. May be repeated for up to 12 hours of degree credit.

**ANTH 4013. History of Anthropological Thought (Fa). 3 Hours.**

Detailed consideration of anthropological theory through study of its historical development. The research paper in this course fulfills the Fulbright College research paper requirement for anthropology majors.

**ANTH 4033. Popular Culture (Irregular). 3 Hours.**

Study of national and international varieties of popular culture, including music, dance, fashion, and the media. Emphasis will be given to both ethnographic approaches, which focus on the investigation of production and consumption of cultural forms and to cultural studies approaches, which see culture as a terrain of struggle.

**ANTH 4063. Women in Africa (Irregular). 3 Hours.**

Diversity of women's life experiences throughout sub-Saharan Africa will be examined. The class will investigate a range of topics, from marriage and motherhood to prostitution and popular culture. A historical dimension will be present throughout the course, and perspectives from literature and film will also be incorporated.

This course is cross-listed with AAST 4063.

**ANTH 4073. African Sociolinguistics (Irregular). 3 Hours.**

Explores how language use intersects, constructs, and reflects social life in Africa. Covers key topics in sociolinguistics as they apply to current sociolinguistic issues on the African continent today.

This course is cross-listed with AAST 4073, WLLC 4073.

**ANTH 4083. African Popular Culture (Irregular). 3 Hours.**

This class explores popular cultural expression across Africa. Topics range from hip hop and film, to second-hand clothing fashions and the media. We will consider how popular culture, while often inspired by global trends, is rooted in local circumstances and often reflects attempts to grapple with important issues.

This course is cross-listed with AAST 4083.

**ANTH 4093. The Archeology of Death (Irregular). 3 Hours.**

Study of the analysis and interpretation of archeological mortuary remains and sites. Key archeological and anthropological sources that have influenced major theoretical developments are reviewed.

**ANTH 4123. Ancient Middle East (Irregular). 3 Hours.**

The archeology of the ancient Middle East with emphasis upon the interaction of ecology, technology and social structure as it pertains to domestication and urbanization.

**ANTH 4133. Settlement Archaeology (Irregular). 3 Hours.**

Focuses on the historical development of settlement archeology, the methods of site survey and discovery within regions, ecological and social theories that underlie patterns of human land use and distribution, methods of site location analysis, and descriptive and predictive site location modeling. Prerequisite: ANTH 3023.

**ANTH 4143. Ecological Anthropology (Irregular). 3 Hours.**

Anthropological perspectives on the study of relationships among human populations and their ecosystems.

**ANTH 4243. Archeology of the Midsouth (Irregular). 3 Hours.**

Survey of prehistoric and protohistoric cultures of the lower Mississippi Valley and adjacent regions. Prerequisite: Junior standing.

**ANTH 4256. Archeological Field Session (Su). 6 Hours.**

Practical field and laboratory experiences in archeological research. May be repeated for up to 12 hours of degree credit.

**ANTH 4263. Identity and Culture in the U.S.-Mexico Borderlands (Irregular). 3 Hours.**

An exploration of the interplay between Latino/a, Mexican, Anglo, and Native American identities and cultures along the U.S.-Mexico border. Course examines identity formation, hybridity, social tension, marginalization, race and gender, from an anthropological perspective, paying special attention to the border as theoretical construct as well as material reality.

**ANTH 4273. Photography for Fieldwork (Irregular). 3 Hours.**

This class explores the use of photographic images as both data and representational tools in anthropological research, emphasizing the ethical, theoretical, and methodological issues involved.

**ANTH 4283. Survey in Ethnographic Film (Irregular). 3 Hours.**

Survey of the development and evolution of ethnographic film, based on class screenings to build familiarity, vocabulary, and literacy with this branch of visual anthropology.

**ANTH 4353. Laboratory Methods in Archeology (Irregular). 3 Hours.**

Theory and practice of describing, analyzing, and reporting upon archeological materials.

**ANTH 4363. Museums, Material Culture, and Popular Imagination (Fa). 3 Hours.**

Museums as ideological sites and thus as sites of potential contestation produce cultural and moral systems that legitimate existing social orders. This course will focus on strategies of representation and the continuous process of negotiating social and cultural hierarchies with and through objects that are displayed.

**ANTH 4443. Cultural Resource Management I (Sp). 3 Hours.**

Concentrated discussion of management problems relative to cultural resources, including review and interpretation of relevant federal legislation, research vs. planning needs, public involvement and sponsor planning, and assessment of resources relative to scientific needs. No field training involved; discussion will deal only with administrative, legal and scientific management problems. May be repeated for degree credit.

**ANTH 448V. Individual Study of Anthropology (Sp, Su, Fa). 1-6 Hour.**

Reading course for advanced students with special interests in anthropology. May be repeated for up to 6 hours of degree credit.

**ANTH 4513. African Religions: Gods, Witches, Ancestors (Irregular). 3 Hours.**

An exploration of African religions from a variety of anthropological perspectives, exploring how religious experience is perceived and interpreted by adherents, highlighting the way in which individual and group identities are constructed, maintained and contested within religious contexts. Readings reflect the vast diversity of religious life in Africa.

**ANTH 4523. Dental Science (Fa). 3 Hours.**

Introduction to the study of the human dentition including its anatomy, morphology, growth and development, and histology.

**ANTH 4533. Middle East Cultures (Sp). 3 Hours.**

Study of the peoples and cultures of the Middle East; ecology, ethnicity, economics, social organizations, gender, politics, religion, and patterns of social change. May be repeated for up to 9 hours of degree credit.

**ANTH 4553. Introduction to Raster GIS (Fa). 3 Hours.**

Theory, data structures, algorithms, and techniques behind raster-based geographical information systems. Through laboratory exercises and lectures multidisciplinary applications are examined in database creation, remotely sensed data handling, elevation models, and resource models using boolean, map algebra, and other methods.

This course is cross-listed with GEOS 4553.

**ANTH 4563. Vector GIS (Sp). 3 Hours.**

Introduction to geographic information systems (GIS) applications in marketing, transportation, real estate, demographics, urban and regional planning, and related areas. Lectures focus on development of principles, paralleled by workstation-based laboratory exercises using mainstream GIS software and relational databases. Prerequisite: GEOS 3023 or GEOS 3543.

This course is cross-listed with GEOS 4583.

**ANTH 4583. Peoples and Cultures of Sub-Saharan Africa (Fa). 3 Hours.**

An exploration of the people and places of Africa from a variety of anthropological perspectives. Classic and contemporary works will be studied in order to underscore the unity and diversity of African cultures, as well as the importance African societies have played in helping us understand culture/society throughout the world.

This course is cross-listed with AAST 4583.

**ANTH 4593. Introduction to Global Positioning Systems and Global Navigation Satellite Systems (Sp). 3 Hours.**

Introduction to navigation, georeferencing, and digital data collection using GPS and GNSS receivers, data loggers, and laser technology. Components of NavStar GLONASS, Beidou and other global positioning system are used in integration of digital information into various GIS platforms with emphasis on practical applications. Prerequisite: GEOS 3543 or ANTH 3543.

This course is cross-listed with GEOS 4593.

**ANTH 4603. Landscape Archaeology (Fa). 3 Hours.**

This course provides an introduction to the methods and theories of landscape archaeology. Topics include archaeological survey techniques, environmental and social processes recorded in the archaeological landscape, and analysis of ancient settlement and land use data to reveal changes in population, resource utilization, and environmental relationships.

**ANTH 4613. Primate Adaptation and Evolution (Sp). 3 Hours.**

Introduction to the biology of the order of Primates. This course considers the comparative anatomy, behavioral ecology and paleontology of our nearest living relatives. Prerequisite: ANTH 1013 (or BIOL 1543 and BIOL 1541L).

This course is cross-listed with BIOL 4613.

**ANTH 4633. Archeological Prospecting and Remote Sensing (Irregular). 3 Hours.**

Ground-based geophysical, aerial, and other remote sensing methods are examined for detecting, mapping, and understanding archeological and other deposits. These methods include magnetometry, resistivity, conductivity, radar, aerial photography, thermography, and multispectral scanning. Requires computer skills, field trips, and use of instruments.

**ANTH 4653. GIS Analysis and Modeling (Sp). 3 Hours.**

Unlike conventional GIS courses that focus on studying "where", this course will teach students to address beyond "where" using various GIS analysis and modeling techniques to explore "why" and "how". The course will provide theoretical and methodological reviews of the principles of cartographic modeling and multi-criteria decision-making.

This course is cross-listed with GEOS 4653.

**ANTH 4703. Mammalian Evolution and Osteology (Irregular). 3 Hours.**

This course will focus on describing the evolutionary history of mammals, a group of vertebrates that include over 5,000 species in 29 orders, and will provide an overview of living species and their identifying features. Prerequisite: ANTH 1013 and ANTH 1011L, BIOL 1543 and BIOL 1541L, or instructor consent.

**ANTH 4803. Historical Archeology (Irregular). 3 Hours.**

Review of the development of historical archeology and discussion of contemporary theory, methods, and substantive issues. Lab sessions on historic artifact identification and analysis.

**ANTH 4813. Ethnographic Approaches to the Past (Irregular). 3 Hours.**

Review of the uses of ethnographic data in the reconstruction and interpretation of past cultures and cultural processes, with particular emphasis on the relationships between modern theories of culture and archeological interpretation.

**ANTH 482V. Applied Visual Research (Irregular). 1-6 Hour.**

This class provides hands-on skill and training conducting visually informed fieldwork designed to help represent unique cultural settings, experience, and heritage. Pre- or Corequisite: ANTH 4273 or ANTH 4283.

**ANTH 4863. Quantitative Anthropology (Irregular). 3 Hours.**

Introductory statistics course for anthropology students examines probability theory, nature of anthropological data, data graphics, descriptive statistics, probability distributions, test for means and variances, categorical and rank methods, ANOVA, correlation and regression. Lectures focus on theory methods; utilize anthropological data and a statistical software laboratory.

This course is cross-listed with GEOS 4863.

**ANTH 4903. Seminar in Anthropology (Irregular). 3 Hours.**

Research, discussion, and projects focusing on a variety of topics. May be repeated for up to 12 hours of degree credit.

**ANTH 4913. Topics of the Middle East (Irregular). 3 Hours.**

Covers a special topic or issue. May be repeated for up to 9 hours of degree credit.

**ANTH 500V. Advanced Problems in Anthropology (Sp, Su, Fa). 1-18 Hour.**

Individual research at graduate level on clearly defined problems or problem areas. May be repeated for up to 18 hours of degree credit.

**ANTH 5043. Advanced Vector Geographic Information Systems (Irregular). 3 Hours.**

Advanced vector operations and analysis. Topics will include topological analysis, network analysis, geocoding, conflation, implications of source and product map scale, map generation, error mapping, and cartographic production. Prerequisite: ((ANTH 4563 or ANTH 5563 (formerly ANTH 4563)) or ((GEOS 4583 or GEOS 5583 (formerly GEOS 4583)) or equivalent.

This course is cross-listed with ENDY 5033, GEOS 5033.

**ANTH 5053. Quaternary Environments (Fa). 3 Hours.**

An interdisciplinary study of the Quaternary Period including dating methods, deposits, soils, climates, tectonics, and human adaptation. Lecture 2 hours, laboratory 2 hours per week.

This course is cross-listed with ENDY 5053, GEOS 5053.

**ANTH 5063. Popular Culture (Irregular). 3 Hours.**

(Formerly ANTH 4033.) Study of national and international varieties of popular culture, including music, dance, fashion, and the media. Emphasis will be given to both ethnographic approaches, which focus on the investigation of production and consumption of cultural forms and to cultural studies approaches, which see culture as a terrain of struggle. Graduate degree credit will not be given for both ANTH 4033 and ANTH 5063.

**ANTH 5093. The Archeology of Death (Irregular). 3 Hours.**

(Formerly ANTH 4093.) Study of the analysis and interpretation of archeological mortuary remains and sites. Key archeological and anthropological sources that have influenced major theoretical developments are reviewed. Graduate degree credit will not be given for both ANTH 4093 and ANTH 5093.

**ANTH 5103. Applications of Cultural Method and Theory (Fa). 3 Hours.**

Review of the nature and history of cultural anthropology; recent theories and practical implications and applications of various methods of acquiring, analyzing and interpreting cultural anthropological data.

**ANTH 5113. Anthropology of the City (Irregular). 3 Hours.**

Examines cities as both products of culture, and sites where culture is made and received. Explores the implications of several pivotal urban and cultural trends and the way in which representations of the city have informed dominant ideas about city space, function, and feel.

**ANTH 5123. Ancient Middle East (Irregular). 3 Hours.**

(Formerly ANTH 4123.) The archeology of the ancient Middle East with emphasis upon the interaction of ecology, technology and social structure as it pertains to domestication and urbanization. Graduate degree credit will not be given for both ANTH 4123 and ANTH 5123.

**ANTH 5133. Settlement Archaeology (Irregular). 3 Hours.**

(Formerly ANTH 4133.) Focuses on the historical development of settlement archeology, the methods of site survey and discovery within regions, ecological and social theories that underlie patterns of human land use and distribution, methods of site location analysis, and descriptive and predictive site location modeling. Graduate degree credit will not be given for both ANTH 4133 and ANTH 5133.

**ANTH 5143. Ecological Anthropology (Irregular). 3 Hours.**

(Formerly ANTH 4143.) Anthropological perspectives on the study of relationships among human populations and their ecosystems. Graduate degree credit will not be given for both ANTH 4143 and ANTH 5143.

**ANTH 5153. Topics in Anthropology (Irregular). 3 Hours.**

Graduate level seminar with varied emphasis on topics relating to cultural anthropology. May be repeated for degree credit.

**ANTH 5203. Applications of Archeological Method and Theory (Fa). 3 Hours.**

Review of the nature and history of archeology; recent theories and practical implications and applications of various methods of acquiring, analyzing, and interpreting archeological data.

**ANTH 5243. Archeology of the Midsouth (Irregular). 3 Hours.**

(Formerly ANTH 4243.) Survey of prehistoric and protohistoric cultures of the lower Mississippi Valley and adjacent regions. Graduate degree credit will not be given for both ANTH 4243 and ANTH 5243.

**ANTH 5256. Archeological Field Session (Su). 6 Hours.**

(Formerly ANTH 4256.) Practical field and laboratory experiences in archeological research. Graduate degree credit will not be given for both ANTH 4256 and ANTH 5256.

**ANTH 5263. Indians of Arkansas and the South (Odd years, Sp). 3 Hours.**

Study of the traditional lifeways and prehistoric backgrounds of Indians living in the southern United States, including Arkansas.

**ANTH 5273. Photography for Fieldwork (Irregular). 3 Hours.**

(Formerly ANTH 4273.) This class explores the use of photographic images as both data and representational tools in anthropological research, emphasizing the ethical, theoretical, and methodological issues involved. Graduate degree credit will not be given for both ANTH 4273 and ANTH 5273.

**ANTH 5283. Survey in Ethnographic Film (Irregular). 3 Hours.**

(Formerly ANTH 4283.) Survey of the development and evolution of ethnographic film, based on class screenings to build familiarity, vocabulary, and literacy with this branch of visual anthropology. Graduate degree credit will not be given for both ANTH 4283 and ANTH 5283.

**ANTH 5293. Identity and Culture in the U.S.-Mexico Borderlands (Irregular). 3 Hours.**

(Formerly ANTH 4263.) An exploration of the interplay between Latino/a, Mexican, Anglo, and Native American identities and cultures along the U.S.-Mexico border. Course examines identity formation, hybridity, social tension, marginalization, race and gender, from an anthropological perspective, paying special attention to the border as theoretical construct as well as material reality. Graduate degree credit will not be given for both ANTH 4263 and ANTH 5293.

**ANTH 5303. Applications of Method and Theory in Biological Anthropology (Irregular). 3 Hours.**

Review of the nature and history of biological anthropology; recent theories and the practical implications and applications of various methods of acquiring, analyzing, and interpreting data.

**ANTH 5313. Laboratory Methods in Archeology (Irregular). 3 Hours.**

(Formerly ANTH 4353.) Theory and practice of describing, analyzing, and reporting upon archeological materials. Graduate degree credit will not be given for both ANTH 4353 and ANTH 5313.

**ANTH 535V. Topics in Physical Anthropology (Irregular). 1-6 Hour.**

Graduate level seminar with varied emphasis on topics relating to physical anthropology. May be repeated for degree credit.

**ANTH 5363. Museums, Material Culture, and Popular Imagination (Fa). 3 Hours.**

(Formerly ANTH 4363.) Museums as ideological sites and thus as sites of potential contestation produce cultural and moral systems that legitimate existing social orders. This course will focus on strategies of representation and the continuous process of negotiating social and cultural hierarchies with and through objects that are displayed. Graduate degree credit will not be given for both ANTH 4363 and ANTH 5363.

**ANTH 5413. Bioarcheology Seminar (Odd years, Sp). 3 Hours.**

Intensive coverage of bioarcheological method and theory with the context of both academic and cultural resources management research.



**ANTH 5423. Human Evolutionary Anatomy (Irregular). 3 Hours.**

Paleobiologists reconstruct past lifeways and systematic relationships of our ancestors using comparative studies of bony morphology and associated soft tissues. This course surveys methods and theories used to infer function and phylogeny, and details relevant aspects of the anatomy of humans, living great apes, and fossil human ancestors. Prerequisite: ANTH 1013 and BIOL 1543. This course is cross-listed with BIOL 5423.

**ANTH 5443. Cultural Resource Management I (Irregular). 3 Hours.**

Concentrated discussion of management problems relative to cultural resources, including review and interpretation of relevant federal legislation, research vs. planning needs, public involvement and sponsor planning, and assessment of resources relative to scientific needs. No field training involved; discussion will deal only with administrative, legal, and scientific management problems.

**ANTH 5473. Descriptive Linguistics (Fa). 3 Hours.**

A scientific study of language with primary emphasis on modern linguistic theory and analysis. Topics include phonology, morphology, syntax, semantics, language acquisition, and historical development of world languages. This course is cross-listed with WLLC 5463, ENGL 5463.

**ANTH 548V. Individual Study of Anthropology (Sp, Su, Fa). 1-6 Hour.**

(Formerly ANTH 448V.) Reading course for advanced students with special interests in anthropology. Graduate degree credit will not be given for both ANTH 448V and ANTH 548V. May be repeated for up to 6 hours of degree credit.

**ANTH 5513. African Religions: Gods, Witches, Ancestors (Irregular). 3 Hours.**

(Formerly ANTH 4513.) An exploration of African religions from a variety of anthropological perspectives, exploring how religious experience is perceived and interpreted by adherents, highlighting the way in which individual and group identities are constructed, maintained and contested within religious contexts. Readings reflect the vast diversity of religious life in Africa. Graduate degree credit will not be given for both ANTH 4513 and ANTH 5513.

**ANTH 5523. Dental Science (Fa). 3 Hours.**

(Formerly ANTH 4523.) Introduction to the study of the human dentition including its anatomy, morphology, growth and development, and histology. Graduate degree credit will not be given for both ANTH 4523 and ANTH 5523.

**ANTH 5553. Introduction to Raster GIS (Fa). 3 Hours.**

(Formerly ANTH 4553.) Theory, data structures, algorithms, and techniques behind raster-based geographical information systems. Through laboratory exercises and lectures multidisciplinary applications are examined in database creation, remotely sensed data handling, elevation models, and resource models using boolean, map algebra, and other methods. Credit will not be given for both ANTH 4553 and ANTH 5553.

This course is cross-listed with GEOS 5453.

**ANTH 5563. Vector GIS (Sp). 3 Hours.**

(Formerly ANTH 4563.) Introduction to geographic information systems (GIS) applications in marketing, transportation, real estate, demographics, urban and regional planning, and related areas. Lectures focus on development of principles, paralleled by workstation-based laboratory exercises using mainstream GIS software and relational databases. Credit will not be given for both ANTH 4563 and ANTH 5563.

This course is cross-listed with GEOS 5583.

**ANTH 5583. Peoples and Cultures of Sub-Saharan Africa (Fa). 3 Hours.**

(Formerly ANTH 4583.) An exploration of the people and places of Africa from a variety of anthropological perspectives. Classic and contemporary works will be studied in order to underscore the unity and diversity of African cultures, as well as the importance African societies have played in helping us understand culture/society throughout the world. Credit will not be given for both ANTH 4583 and ANTH 5583.

**ANTH 5593. Introduction to Global Positioning Systems and Global Navigation Satellite Systems (Sp). 3 Hours.**

(Formerly ANTH 4593.) Introduction to navigation, georeferencing, and digital data collection using GPS and GNSS receivers, data loggers, and laser technology. Components of NavStar GLONASS, Beidou and other global positioning system are used in integration of digital information into various GIS platforms with emphasis on practical applications. Credit will not be given for both ANTH 4593 and ANTH 5593. This course is cross-listed with GEOS 5293.

**ANTH 5603. Landscape Archaeology (Fa). 3 Hours.**

(Formerly ANTH 4603.) This course provides an introduction to the methods and theories of landscape archaeology. Topics include archaeological survey techniques, environmental and social processes recorded in the archaeological landscape, and analysis of ancient settlement and land use data to reveal changes in population, resource utilization, and environmental relationships. Credit will not be given for both ANTH 4603 and ANTH 5603.

**ANTH 561V. Field Research in Archeology (Irregular). 1-6 Hour.**

Directed graduate level archeological fieldwork. May be repeated for up to 6 hours of degree credit.

**ANTH 5623. Primate Adaptation and Evolution (Sp). 3 Hours.**

(Formerly ANTH 4613.) Introduction to the biology of the order of Primates. This course considers the comparative anatomy, behavioral ecology and paleontology of our nearest living relatives. Credit will not be given for both ANTH 4613 and ANTH 5623.

**ANTH 5633. Archeological Prospecting & Remote Sensing (Irregular). 3 Hours.**

(Formerly ANTH 4633.) Ground-based geophysical, aerial, and other remote sensing methods are examined for detecting, mapping, and understanding archeological and other deposits. These methods include magnetometry, resistivity, conductivity, radar, aerial photography, thermography, and multispectral scanning. Requires computer skills, field trips, and use of instruments. Credit will not be given for both ANTH 4633 and ANTH 5633.

**ANTH 5653. GIS Analysis and Modeling (Sp). 3 Hours.**

(Formerly ANTH 4653.) Unlike conventional GIS courses that focus on studying "where", this course will teach students to address beyond "where" using various GIS analysis and modeling techniques to explore "why" and "how". The course will provide theoretical and methodological reviews of the principles of cartographic modeling and multi-criteria decision-making. Credit will not be given for both ANTH 4653 and ANTH 5653.

This course is cross-listed with GEOS 5653, ENDY 5043.

**ANTH 5703. Mammalian Evolution and Osteology (Irregular). 3 Hours.**

(Formerly ANTH 4703.) This course will focus on describing the evolutionary history of mammals, a group of vertebrates that include over 5,000 species in 29 orders, and will provide an overview of living species and their identifying features. Credit will not be given for both ANTH 4703 and ANTH 5703. Prerequisite: ANTH 1013 and ANTH 1011L, BIOL 1543 and BIOL 1541L, or instructor consent.

**ANTH 5803. Historical Archeology (Irregular). 3 Hours.**

(Formerly ANTH 4803.) Review of the development of historical archeology and discussion of contemporary theory, methods, and substantive issues. Lab sessions on historic artifact identification and analysis. Graduate degree credit will not be given for both ANTH 4803 and ANTH 5803.

**ANTH 5813. Ethnographic Approaches to the Past (Irregular). 3 Hours.**

(Formerly ANTH 4813.) Review of the uses of ethnographic data in the reconstruction and interpretation of past cultures and cultural processes, with particular emphasis on the relationships between modern theories of culture and archeological interpretation. Credit will not be given for both ANTH 4813 and ANTH 5813.

**ANTH 582V. Applied Visual Research (Irregular). 1-6 Hour.**

(Formerly ANTH 482V.) This class provides hands-on skill and training conducting visually informed fieldwork designed to help represent unique cultural settings, experience, and heritage. Credit will not be given for both ANTH 482V and ANTH 582V.

**ANTH 5863. Quantitative Anthropology (Irregular). 3 Hours.**

(Formerly ANTH 4863.) Introductory statistics course for anthropology students examines probability theory, nature of anthropological data, data graphics, descriptive statistics, probability distributions, test for means and variances, categorical and rank methods, ANOVA, correlation and regression. Lectures focus on theory methods; utilize anthropological data and a statistical software laboratory. Credit will not be given for both ANTH 4863 and ANTH 5863. This course is cross-listed with GEOS 5863.

**ANTH 5903. Seminar in Anthropology (Irregular). 3 Hours.**

(Formerly ANTH 4903.) Research, discussion, and projects focusing on a variety of topics. Credit will not be given for both ANTH 4903 and ANTH 5903. May be repeated for up to 12 hours of degree credit.

**ANTH 5913. Topics of the Middle East (Irregular). 3 Hours.**

(Formerly ANTH 4913.) Covers a special topic or issue. Credit will not be given for both ANTH 4913 and ANTH 5913. May be repeated for up to 9 hours of degree credit.

**ANTH 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Master's Thesis. May be repeated for degree credit.

**ANTH 6033. Society and Environment (Sp). 3 Hours.**

This course examines the complex interrelationships between human societies and the natural environment. Drawing on diverse and interdisciplinary perspectives in archaeology, ethnography, history, geography, and palaeo-environmental studies, readings and discussion will explore the co-production of social and environmental systems over time. May be repeated for degree credit. This course is cross-listed with ENDY 6033.

**ANTH 610V. Internship (Sp, Su, Fa). 1-18 Hour.**

May be repeated for up to 18 hours of degree credit.

**ANTH 6813. Seminar: Cultural Anthropology (Irregular). 3 Hours.**

Variable topics in Anthropology will be explored in depth. May be repeated for up to 9 hours of degree credit.

**ANTH 6823. Seminar: Archeology (Irregular). 3 Hours.**

Various topics in Archeology will be explored in depth. May be repeated for up to 9 hours of degree credit.

**ANTH 6833. Seminar: Biological Anthropology (Irregular). 3 Hours.**

Various topics in Biological Anthropology will be explored in depth. May be repeated for up to 9 hours of degree credit.

**ANTH 700V. Doctoral Dissertation (Sp, Fa). 1-18 Hour.**

Doctoral Dissertation. May be repeated for degree credit.

## Apparel Merchandising and Product Development (AMPD) Courses

**AMPD 1013. Introduction to Clothing Concepts (Sp, Fa). 3 Hours.**

Origin of dress, the evolution of fashion as an economic power, the sociological and psychological aspects of clothing in various cultures, aesthetics of dress, selection and consumption of clothing. Lecture 3 hours per week. Prerequisite: HESC 1501 if HESC or AMPD major.

**AMPD 1013H. Honors Introduction to Clothing Concepts (Sp, Fa). 3 Hours.**

Origin of dress, the evolution of fashion as an economic power, the sociological and psychological aspects of clothing in various cultures, aesthetics of dress, selection and consumption of clothing. Lecture 3 hours per week. Prerequisite: Honors standing and HESC 1501 if HESC or AMPD major. This course is equivalent to AMPD 1013.

**AMPD 1023. Introduction to Apparel Production (Sp, Fa). 3 Hours.**

Course focuses on basic principles of apparel production and analysis of garment components of mass produced apparel. Students utilize computer generated designs in the production process. Laboratory 6 hours per week. Prerequisite: HESC or AMPD students only.

**AMPD 2013. Fashion, Buying and Promotion in a Global Market (Sp, Fa). 3 Hours.**

Fashion components, marketing theories and practices as they specifically relate to apparel, home goods, and other design driven products in the global market. Focus on principles and techniques on how fashion marketers develop and apply marketing strategies that meet consumer needs at a profit. International buying and promotional aspects of the apparel industry are emphasized. Lecture 3 hours per week. Prerequisite: AMPD major and AMPD 1013.

**AMPD 2013H. Honors Fashion, Buying and Promotion in a Global Market (Sp, Fa). 3 Hours.**

Fashion components, marketing theories and practices as they specifically relate to apparel, home goods, and other design driven products in the global market. Focus on principles and techniques on how fashion marketers develop and apply marketing strategies that meet consumer needs at a profit. International buying and promotional aspects of the apparel industry are emphasized. Lecture 3 hours per week. Prerequisite: AMPD major, AMPD 1013 and honors standing. This course is equivalent to AMPD 2013.

**AMPD 2033. Computer Based Methods for Apparel (Sp, Fa). 3 Hours.**

This course is designed to give students basic experience with CAD (computer aided design) apparel industry software in a computer laboratory environment. Prerequisite: AMPD majors only, AMPD 1013, AMPD 1023 and AGME 2903 or ISYS 1123 or equivalent.

**AMPD 2053. Introduction to Textile Science (Sp, Fa). 3 Hours.**

Textile fibers and fabrics, their structure, properties, manufacture, wearing qualities and methods of laundering, finishing, and dyeing. Artistic and economic selection of materials for clothing and household furnishings. Lecture 3 hours per week. Prerequisite: HESC or AMPD students only.

**AMPD 2063. Quality Assessment of Apparel (Sp, Fa). 3 Hours.**

Study of apparel from the perspective of structure, aesthetics, cost and expected performance of the finished product. Lecture 2 hours per week, lab 2 hours per week. Prerequisite: AMPD 1023 and AMPD 2053.

**AMPD 3003. Apparel Production (Sp, Fa). 3 Hours.**

A study of product development and production through flat pattern manipulation and the related vocabulary necessary to communicate professionally within the industry. Laboratory 6 hours per week. Pre- or Corequisite: AMPD 2063.

**AMPD 3033. Merchandising Math for the Apparel Industry (Sp, Fa). 3 Hours.**

Exploration of activities associated with the procurement of fashion apparel. A fashion analysis is directed toward apparel demands and the creation of a fashion statement by the use of specific quantitative skills. Course follows fashion item from the designer to the store. Lecture 3 hours per week. Prerequisite: MATH 1203 or MATH 1204 or three credit hours of STAT and AMPD 2013.

**AMPD 3043. Fashion Brand Management (Sp, Fa). 3 Hours.**

This course focuses on the fundamental elements of brand, the concept of brand equity, brand relationships with consumers, and the implications of technologies on the branding process in the fashion industry. The course topics include branding basics, the concept of brand equity, brand image, brand positioning, brand communications, the role of emotional and sensory experiences in fashion branding, luxury fashion brands, sustainable fashion branding management, and technology driven branding. Prerequisite: AMPD 2013.

**AMPD 3071. Apparel Merchandising and Product Development Pre-Internship (Sp). 1 Hour.**

A study of job descriptions, responsibilities at the management level, structural operations, work procedures, job performance evaluations, job application, the resume, and portfolio development in preparation for AMPD 4082, AMPD Internship. Lecture 1 hour per week. Prerequisite: AMPD majors only.

**AMPD 4011. History of Apparel Through Film to 1900 (Sp, Fa). 1 Hour.**

This course uses historic costume films to trace the evolution of clothing from ancient Egypt to the Twentieth Century. Emphasis is placed on societal aspects such as politics, religion, economy, technology, education, sports, class structure, and gender roles, and how they affect and change dress. Web-based course.

**AMPD 4023. Merchandising Application for the Apparel Industry (Sp, Fa). 3 Hours.**

Application of merchandising theory, principles and practices in a capstone class. An in depth study of innovative apparel business concepts as applied to manufacturers and retailers of apparel including apparel classification, seasonal cycles, stock emphasis, assortment strategies, target customers, and apparel trends. Includes an overview of marketing communication including advertising, personal selling, and sales promotion. Prerequisite: AMPD 3033 and AMPD 3043.

**AMPD 4033. Computer Aided Textile Design (Sp, Fa). 3 Hours.**

This course is designed to give students advanced skills in textile design using industry based computer aided design (CAD) software. Lab 4 hours per week. Prerequisite: AMPD 2033 and AMPD 2053.

**AMPD 4053. Historic and Contemporary Apparel (Sp, Fa). 3 Hours.**

This course traces the evolution of clothing from ancient times to the twentieth century with emphasis upon Western civilization and includes the study of contemporary fashion as a social force including the origin, scope, theory, and history of the fashion business, the materials of fashion, the fashion producers, auxiliary fashion enterprises, designers, fashion leaders, and leading market. Cultural and economic factors affecting dress, adornment and customs associated dress will be stressed. The Lecture 3 hours per week. Prerequisite: Junior or senior standing or instructor consent.

**AMPD 4063. Advanced Apparel Production (Sp, Fa). 3 Hours.**

An advanced study of product development incorporating technology used in the industry for a career in fashion merchandising and/or product development in a computer laboratory environment. Laboratory 6 hours per week. Prerequisite: AMPD 2033, AMPD 2063 and AMPD 3003.

**AMPD 4063H. Honors Advanced Apparel Production (Sp, Fa). 3 Hours.**

An advanced study of product development incorporating technology used in the industry for a career in fashion merchandising and/or product development in a computer laboratory environment. Laboratory 6 hours per week. Prerequisite: AMPD 2033, AMPD 2063 and AMPD 3003 and honors candidacy.

This course is equivalent to AMPD 4063.

**AMPD 4082. Apparel Merchandising and Product Development Internship (Sp, Su, Fa). 2 Hours.**

A practical experience in a retail store or in a work situation related to the apparel industry to gain insight into the field of apparel merchandising and operations. Prerequisite: Junior standing and 2.50 cum GPA and AMPD 2013, AMPD 2033, AMPD 2063, AMPD 3003, AMPD 3033, AMPD 3043, AMPD 3071, COMM 1313 and instructor consent. May be repeated for up to 4 hours of degree credit.

**AMPD 4093. Apparel Merchandise Planning and Inventory Control (Sp, Fa). 3 Hours.**

Describes today's challenges for both apparel manufacturers and retailers in meeting the consumer's demands for the right products at the right prices - and at the right times. Follows the evolution of the merchandising function with emphasis on production efficiency, highlighting the philosophies of industry executives and the effective integration of the merchandising, store design, marketing, the apparel supply chain and manufacturing functions along the way. Prerequisite: AMPD 3033.

**AMPD 4103. Evolution of Fashion and Society Through Television Media (Sp, Fa). 3 Hours.**

This course uses television programming from its early beginnings in the 1930s through to the twenty-first century to trace major events, societal changes, and the associated evolution of fashion. The course examines television both as an innovator and diffuser of fashion trends.

**AMPD 4111. History of Apparel Through Film from 1900 to Present (Sp, Fa). 1 Hour.**

This course uses historic costume films to trace the evolution of clothing from 1900 to Present. Emphasis is placed on societal aspects such as politics, religion, economy, technology, education, sports, class structure, and gender roles, and how they affect and change dress. Web based course.

**AMPD 4901. AMPD Pre-Study Tour (Sp, Su). 1 Hour.**

A study of specific regional and international fashion markets for apparel studies in preparation for AMPD 491V AMPD Study Tour. The course examines the design, production, distribution and retailing of fashion goods from couture fashion to mass markets. AMPD 4901 is content specific to each AMPD 491V study tour and must be repeated for each study tour destination. A grade of "C" or better is required to participate in AMPD 491V. Prerequisite: 2.0 minimum GPA. AMPD majors with minimum 30 hours, or consent. May be repeated for up to 4 hours of degree credit.

**AMPD 4901H. Honors AMPD Pre-Study Tour (Sp, Su). 1 Hour.**

A study of specific regional and international fashion markets for apparel studies in preparation for AMPD 491V AMPD Study Tour. The course examines the design, production, distribution and retailing of fashion goods from couture fashion to mass markets. AMPD 4901 is content specific to each AMPD 491V study tour and must be repeated for each study tour destination. A grade of "C" or better is required to participate in AMPD 491V. Prerequisite: 2.0 minimum GPA. AMPD majors with minimum 30 hours, or consent. May be repeated for up to 4 hours of degree credit. This course is equivalent to AMPD 4901.

**AMPD 491V. AMPD Study Tour (Su). 2-6 Hour.**

An on-site study of specific regional and international fashion markets for apparel merchandising and product development. Course further examines the design, production, distribution and retailing of fashion goods from couture fashion to mass markets as outlined in AMPD 4901. Course includes study trip; length based upon destination. Additional fees required. Course will also be offered each May and August Intersession. Prerequisite: AMPD 4901 (with a C or better), 2.0 min. GPA, AMPD major with min. 30 hours, and instructor consent. Corequisite: AMPD 4901 (with a C or better, if corequisite, must have C or better at time of trip), 2.0 min. GPA, AMPD major with min. 30 hours, and instructor consent. May be repeated for up to 24 hours of degree credit.

**AMPD 491VH. Honors AMPD Study Tour (Su). 2-6 Hour.**

An on-site study of specific regional and international fashion markets for apparel merchandising and product development. Course further examines the design, production, distribution and retailing of fashion goods from couture fashion to mass markets as outlined in AMPD 4901. Course includes study trip; length based upon destination. Additional fees required. Course will also be offered each May and August Intersession. Prerequisite: AMPD 4901 (with a C or better), 2.0 min. GPA, AMPD major with min. 30 hours, and instructor consent. Corequisite: AMPD 4901 (with a C or better, if corequisite, must have C or better at time of trip), 2.0 min. GPA, AMPD major with min. 30 hours, and instructor consent. May be repeated for up to 24 hours of degree credit.

**AMPD 5003. Apparel Sourcing and Merchandising Systems in the Global Economy (Odd years, Fa). 3 Hours.**

Evaluation of key issues facing textiles and apparel supply chain businesses in the global economy considering economic, political, and social perspectives and professional implications. Lecture 3 hours.

**AMPD 5013. Advanced Apparel Pattern Design (Irregular). 3 Hours.**

Use of computer aided design technology to perform pattern making techniques for apparel production. Laboratory 5 hours per week. Prerequisite: AMPD 3003.

**AMPD 5023. Social, Psychological and Cultural Aspects of Dress (Odd years, Fa). 3 Hours.**

Integration of social, psychological and cultural theories as they apply to appearance and clothing behavior. Lecture 3 hours.

**AMPD 5033. Issues and Trends in Textile Studies (Odd years, Sp). 3 Hours.**

Studies of advances in textile science and recent developments in the textile industry. Lecture 3 hours.

**AMPD 5043. Theories and Practices in Apparel Merchandising (Even years, Sp). 3 Hours.**

Theoretical perspectives, concepts and current practices that influence apparel merchandising. Lecture 3 hours.

## Applied Music (Class) (MUAC) Courses

**MUAC 1121. English and Italian Diction for Singers (Fa). 1 Hour.**

Training in proper pronunciation and inflections of English and Italian as applied to singers. Two meetings per week.

**MUAC 1141. German and French Diction for Singers (Sp). 1 Hour.**

Training in proper pronunciation and inflection of German and French as applied to singing. Two meetings per week. Prerequisite: MUAC 1121.

**MUAC 1161. Class Instruction in Piano for Non-Music Majors (Sp, Su, Fa). 1 Hour.**

Beginning instruction in piano. Does not fulfill the class piano requirement for music majors.

**MUAC 1221. Piano Class for Music Majors I (Sp). 1 Hour.**

Training in functional piano skills for music majors. Two meetings per week. Prerequisite: Music major and MUTH 1003.

**MUAC 1231. Piano Class for Music Majors II (Fa). 1 Hour.**

A continuation of MUAC 1221. Two meetings per week. Upon successful completion of MUAC 1231 with a grade of B or better, credit for MUAC 1221 will also be given. Prerequisite: MUAC 1221 and a music major pursuing a degree of Bachelor of Arts or Honors Bachelor of Arts or Bachelor of Music or Honors Bachelor of Music.

**MUAC 1301. Class Instruction in Violin and Viola (Fa). 1 Hour.**

Beginning class instruction in violin and viola. For music education majors only or with instructor's consent. Prerequisite: Music Education majors pursuing a concentration in Piano Education, Voice Education, String Education or Woodwind Brass Percussion Education; or instructor's consent.

**MUAC 1311. Class Instruction in Violoncello and String Bass (Sp, Fa). 1 Hour.**

Beginning class instruction in violoncello and string bass. Prerequisite: Music education major pursuing a degree in Piano Education, Voice Education, String Education or Woodwind Brass Percussion Education; or instructor's consent.

**MUAC 1321. Class Instruction in Guitar (Sp, Fa). 1 Hour.**

Beginning class instruction in guitar. Students must provide their own instruments.

**MUAC 1331. Class Instruction in Clarinet and Saxophone (Sp). 1 Hour.**

The elementary study of clarinet and saxophone. Beginning class instruction designed to familiarize the student with the basic playing skills and teaching techniques for the instruments. Corequisite: MUAC 1341 and lab component. Prerequisite: Music education major pursuing a degree in Piano Education, Voice Education, String Education or Woodwind Brass Percussion Education; or instructor's consent.

**MUAC 1341. Class Instruction in Flute (Sp). 1 Hour.**

The elementary study of flute. Beginning class instruction designed to familiarize the student with basic playing skills and teaching techniques of the instrument. Corequisite: MUAC 1331 and lab component. Prerequisite: Music education major pursuing a degree in Piano Education, Voice Education, String Education or Woodwind Brass Percussion Education; or instructor's consent.

**MUAC 1351. Class Instruction in High Brass Instruments (Sp). 1 Hour.**

The elementary study of the cornet, trumpet, and horn. Beginning class instruction designed to familiarize the student with the history, physics, basic playing skills, methods, materials, and teaching techniques of the high brass family. Corequisite: MUAC 1361 and lab component. Prerequisite: Music education major pursuing a degree in Piano Education, Voice Education, String Education or Woodwind Brass Percussion Education; or instructor's consent.

**MUAC 1361. Class Instruction in Low Brass Instruments (Sp). 1 Hour.**

The elementary study of the trombone, euphonium and tuba. Beginning class instruction designed to familiarize the student with the history, physics, basic playing skills, methods, materials, and teaching techniques of the low brass family. Corequisite: MUAC 1351 and lab component. Prerequisite: Music education major pursuing a degree in Piano Education, Voice Education, String Education or Woodwind Brass Percussion Education; or instructor's consent.

**MUAC 1381. Class Instruction in Voice (Sp, Fa). 1 Hour.**

Fundamentals of vocalization and singing of English songs, including breathing, vowel clarity, and pronunciation of consonants.

**MUAC 2112. Music Technology (Sp, Su, Fa). 2 Hours.**

Introduces skills for transcribing music using music notation software and sound reinforcement systems. Covers MIDI sequencing and audio recording and editing software to produce accompaniment tracks and create compact discs of music and multimedia projects. Prerequisite: Music major pursuing a Bachelor of Music or Honors Bachelor of Music degree, and sophomore standing.

**MUAC 2141. Class Instruction in Oboe and Bassoon (Sp). 1 Hour.**

The elementary study of oboe and bassoon. Class instruction designed to familiarize the student with basic playing skills and teaching techniques of the instruments. Prerequisite: MUAC 1331 or MUAC 1341 and a Music education major pursuing a degree in Piano Education, Voice Education, String Education or Woodwind Brass Percussion Education; or instructor's consent.

**MUAC 2221. Piano Class for Music Majors III (Sp). 1 Hour.**

A continuation of MUAC 1231. Two meetings per week. Upon successful completion of MUAC 2221 with a grade of B or better, credit for MUAC 1221 and MUAC 1231 will also be given. Prerequisite: MUAC 1231 and a music major pursuing a degree of Bachelor of Arts or Honors Bachelor of Arts or Bachelor of Music or Honors Bachelor of Music.

**MUAC 2231. Piano Class for Music Major IV (Fa). 1 Hour.**

A continuation of MUAC 2221. Two meetings per week. Upon successful completion of MUAC 2231 with a grade of B or better, credit for MUAC 1221, MUAC 1231, and MUAC 2221 will also be given. Prerequisite: MUAC 2221 and a music major pursuing a degree of Bachelor of Arts or Honors Bachelor of Arts or Bachelor of Music or Honors Bachelor of Music.

**MUAC 4371. Teaching the High School Percussionist (Irregular). 1 Hour.**

A study of solo literature and small and large ensemble literature appropriate for the high school percussionist. Emphasis on advanced snare drum and marimba lit., timpani and the broad range of percussionist instruments. Includes study of high school band, orchestra and percussion ensemble scores. Prerequisite: MUAC 1371.

## Applied Music (Private Instruction) (MUAP)

### Courses

**MUAP 1001. Applied Secondary-Level Voice/Instrument I (Sp, Fa). 1 Hour.**

Private study of secondary voice/instrument. Prerequisite: Instructor consent. May be repeated for up to 2 hours of degree credit.

**MUAP 110V. Applied Major Voice/Instrument I (Sp, Fa). 1-4 Hour.**

Private study of the primary voice/instrument for music majors. Admission to MUAP 110V requires the successful completion of audition for the instructor. Prerequisite: Music major. May be repeated for up to 8 hours of degree credit.

**MUAP 130V. Applied Skills Voice/Instrument I (Sp, Fa). 1-4 Hour.**

Private study of the primary voice/instrument for music majors. Continued development of fundamental musical and technical skills introduced in MUAP 110V. Prerequisite: Music major; recommendation of instructor. May be repeated for up to 8 hours of degree credit.

**MUAP 2001. Applied Secondary-Level Voice/Instrument II (Sp, Fa). 1 Hour.**

Continued private study of secondary voice/instrument. Instructor permission required to enroll. Prerequisite: Two hours of MUAP 1001 and recommendation of the instructor. May be repeated for up to 2 hours of degree credit.

**MUAP 210V. Applied Major Voice/Instrument II (Sp, Fa). 1-4 Hour.**

Continued private study of the primary voice/instrument for music majors. Prerequisite: Two semesters of MUAP 110V with grades of B or better or MUAP 130V with a grade of B or better. May be repeated for up to 8 hours of degree credit.

**MUAP 230V. Applied Skills Voice/Instrument II (Sp, Fa). 1-4 Hour.**

Private study of the primary voice/instrument for music majors. Continued development of fundamental musical and technical skills introduced in MUAP 210V. Prerequisite: Two semesters of MUAP 210V and recommendation of instructor. May be repeated for up to 8 hours of degree credit.

**MUAP 3001. Applied Secondary-Level Voice/Instrument III (Sp, Fa). 1 Hour.**

Advanced private study of secondary voice/instrument. Prerequisite: Two semesters of MUAP 2001 and recommendation of the instructor. May be repeated for up to 2 hours of degree credit.

**MUAP 310V. Applied Major Voice/Instrument III (Sp, Fa). 1-4 Hour.**

Continuation of MUAP 210V. Private study of the primary instrument/voice for music majors at the advanced level. Admission requires approval of the faculty committee of the area of study (voice, piano, woodwind, brass, percussion). Mastery of fundamental/technical skills sufficient to prepare for a recital must be observable by the committee. Prerequisite: Two semesters of MUAP 210V with grades of B or better or MUAP 230V with a grade of B or better. May be repeated for up to 8 hours of degree credit.

**MUAP 310VH. Honors Applied Major Voice/Instrument III (Sp, Fa). 1-4 Hour.**

Continuation of MUAP 210V. Private study of the primary voice/instrument for honors music majors at the advanced level. Admission requires approval of faculty committee of the area of study (voice, piano, woodwind, brass, percussion). Mastery of fundamental/technical skills sufficient to prepare for a recital must be observable by the committee. Prerequisite: Two semesters of MUAP 210V with grades of B or better or MUAP 230V with a grade of B or better; honors standing. May be repeated for up to 8 hours of degree credit.

This course is equivalent to MUAP 310V.

**MUAP 3201. Applied Recital I (Sp, Fa). 1 Hour.**

Preparation and performance of a public recital of a minimum of 25 minutes of music. May be repeated for degree credit.

**MUAP 3201H. Honors Applied Recital I (Sp, Fa). 1 Hour.**

Preparation and performance of a public recital of a minimum of 50 minutes of music. Corequisite: MUAP 310VH. May be repeated for degree credit. This course is equivalent to MUAP 3201.

**MUAP 330V. Applied Skills Voice/Instrument III (Sp, Fa). 1-4 Hour.**

Private study of the primary voice/instrument for music majors at the advanced level. Continued development of musical and technical skills introduced in MUAP 310V. Prerequisite: Two semesters of MUAP 310V and recommendation of instructor. May be repeated for up to 8 hours of degree credit.

**MUAP 4001. Applied Secondary-Level Voice/Instrument IV (Sp, Fa). 1 Hour.**

Continued advanced private study of secondary voice/instrument. Instructor permission required to enroll. Prerequisite: Two semesters of MUAP 3001 and recommendation of the instructor. May be repeated for up to 2 hours of degree credit.

**MUAP 410V. Applied Major Voice/Instrument IV (Sp, Fa). 1-4 Hour.**

Continuation of MUAP 310V. Private study of the primary voice/instrument for music majors at the advanced level. Prerequisite: Two semesters of MUAP 310V with recommendation of instructor. May be repeated for up to 8 hours of degree credit.

**MUAP 410VH. Honors Applied Major Voice/Instrument IV (Sp, Fa). 1-4 Hour.**

Continuation of MUAP 310VH. Private study of the primary voice/instrument for honors music majors at the advanced level. Prerequisite: Two semesters of MUAP 310VH, recommendation of instructor and honors standing. May be repeated for up to 8 hours of degree credit. This course is equivalent to MUAP 410V.

**MUAP 415V. Applied Skills Voice/Instrument IV (Sp, Fa). 1-4 Hour.**

Private study of the primary voice/instrument for music majors at the advanced level in preparation for recital. Continued development of musical and technical skills introduced in MUAP 410V. Prerequisite: Two semesters of MUAP 410V and recommendation of instructor. May be repeated for up to 8 hours of degree credit.

**MUAP 4201. Applied Recital II (Sp, Fa). 1 Hour.**

Preparation and performance of a public recital of a minimum of 50 minutes of music. Prerequisite: MUAP 3201. May be repeated for degree credit.

**MUAP 4201H. Honors Applied Recital II (Sp, Fa). 1 Hour.**

Preparation and performance of a public recital of a minimum of 50 minutes of music. Corequisite: MUAP 410VH. May be repeated for degree credit. This course is equivalent to MUAP 4201.

**MUAP 4301. Composition Recital (Sp, Fa). 1 Hour.**

Preparation and performance of a public recital of a minimum of 50 minutes consisting of original musical compositions. May be repeated for degree credit.

**MUAP 4301H. Honors Composition Recital (Sp, Fa). 1 Hour.**

Preparation and performance of a public recital of a minimum of 50 minutes consisting of original musical compositions. Prerequisite: Honors standing. May be repeated for degree credit. This course is equivalent to MUAP 4301.

**MUAP 5001. Applied Voice/Instrument-Secondary Level (Sp, Fa). 1 Hour.**

Private study at the graduate secondary level. May be repeated for degree credit.

**MUAP 510V. Applied Voice/Instrument (Sp, Fa). 1-5 Hour.**

Private study at the graduate level. May be repeated for degree credit.

**MUAP 5201. Graduate Recital I (Sp, Fa). 1 Hour.**

Preparation and performance of a public recital of a minimum of 50 minutes of music. May be repeated for degree credit.

**MUAP 5211. Graduate Recital II (Sp, Fa). 1 Hour.**

Preparation and performance of a public recital of a minimum of 50 minutes of music. May be repeated for degree credit.

## Arabic (ARAB) Courses

**ARAB 1016. Intensive Arabic I (Fa). 6 Hours.**

Equivalent to 1003 and 1013. Stresses correct pronunciation, aural comprehension, and simple speaking ability. Basic grammar is taught inductively through oral and written skills.

**ARAB 2013. Intermediate Arabic II (Irregular). 3 Hours.**

Continued development of speaking, comprehension, reading, and writing. Emphasizes morphology and syntax.

**ARAB 2016. Intensive Arabic II (Sp). 6 Hours.**

Equivalent to 2003-2013 sequence. Leads to greater oral comprehension and speaking ability and develops the more advanced reading and writing skills. Emphasizes morphology and syntax.

**ARAB 2016H. Honors Intensive Arabic II (Sp). 6 Hours.**

Equivalent to 2003-2013 sequence. Leads to greater oral comprehension and speaking ability and develops the more advanced reading and writing skills. Emphasizes morphology and syntax. Prerequisite: Honors standing. This course is equivalent to ARAB 2016.

**ARAB 3016. Intensive Arabic III (Fa). 6 Hours.**

Leads to greater facility in the spoken language and continues to develop reading and writing skills. Continued emphasis on morphology and syntax. Prerequisite: ARAB 2016.

This course is cross-listed with ARAB 3016H.

**ARAB 3016H. Honors Intensive Arabic III (Fa). 6 Hours.**

Leads to greater facility in the spoken language and continues to develop reading and writing skills. Continued emphasis on morphology and syntax. Prerequisite: ARAB 2016.

This course is cross-listed with ARAB 3016.

**ARAB 4016. Intensive Arabic IV (Sp). 6 Hours.**

Continued development of speaking, comprehension, reading, writing. Reading assignments introduce a variety of styles ranging from classical to modern in both prose and verse.

**ARAB 4016H. Honors Intensive Arabic IV (Sp). 6 Hours.**

Continued development of speaking, comprehension, reading, writing. Reading assignments introduce a variety of styles ranging from classical to modern in both prose and verse. Prerequisite: Honors standing.

This course is equivalent to ARAB 4016.

**ARAB 4023. Advanced Arabic I (Irregular). 3 Hours.**

Development of advanced speaking and writing skills. Extensive reading and writing assignments and translating exercises from English into Arabic. Prerequisite: ARAB 4016.

**ARAB 4033. Advanced Arabic II (Irregular). 3 Hours.**

Continued advanced speaking, reading, and writing skills. Prerequisite: ARAB 4023.

**ARAB 470V. Special Topics (Irregular). 1-6 Hour.**

May be offered in a topic not specifically covered by courses otherwise listed. May be repeated for degree credit.

## Architecture (ARCH) Courses

**ARCH 1003. Basic Course in the Arts: Architecture Lecture (Sp, Fa). 3 Hours.**

A general introduction to architecture, exploring the designed environment, including cities and buildings and their histories, technologies and users, in a holistic manner. May not be presented towards satisfaction of major requirements in either the B.Arch or B.A. in architectural studies degrees.

**ARCH 1003H. Honors Basic Course in the Arts: Architecture Lecture (Fa). 3 Hours.**

A general introduction to architecture, exploring the designed environment, including cities and buildings and their histories, technologies, and users, in a holistic manner. May not be presented towards satisfaction of major requirements in either the B.Arch or B.A. in architectural studies degrees. Prerequisite: Honors candidacy. This course is equivalent to ARCH 1003.

**ARCH 1013. Diversity and Design (Su). 3 Hours.**

Explores the reciprocal relationship between diversity and design in America, investigating how race, gender, religion, ability, age, class, and location affect and are affected by the design of media, products, architecture, and cities/regions. Positive and negative effects of diversity and design are discussed.

**ARCH 1013H. Honors Diversity and Design (Su). 3 Hours.**

Explores the reciprocal relationship between diversity and design in America, investigating how race, gender, religion, ability, age, class, and location affect and are affected by the design of media, products, architecture, and cities/regions. Positive and negative effects of diversity and design are discussed. Prerequisite: Honors candidacy.

This course is equivalent to ARCH 1013.

**ARCH 1015. Fundamental Design Skills (Su, Fa). 5 Hours.**

Fundamental design skills; development of visual and verbal communication skills including observation skills, design technologies, analysis and representation in both 2-dimensions and 3-dimensions through analog and digital tools; creative and critical thinking skills.

**ARCH 1025. Fundamental Design Methodology (Sp, Su). 5 Hours.**

Fundamental design skills; use of precedents for understanding principles of design and natural and formal ordering systems; design development using both iterative and alternative methods of exploration in both 2-dimensions and 3-dimensions using analog and digital tools; continued development of visual and verbal communication skills. Prerequisite: ARCH 1015.

**ARCH 1212. Design Thinking I: Foundations in Technology (Su, Fa). 2 Hours.**

This course will raise pertinent questions about the role of architectural technology in design through studying the important theories about technology from Vitruvius to contemporary practice and understanding how they have been manifested in built form.

**ARCH 1222. Design Thinking II: Foundations in History (Sp, Su). 2 Hours.**

Explores the role of architectural history in design thinking, introducing divergent canons and traditions in a global context and emphasizing understanding of the relationships among buildings, spaces and places and the social, political and technological circumstances in which the work was theorized, produced, and lived. Prerequisite: ARCH 1212.

**ARCH 1600. Undergraduate Research Assistant (Sp, Su, Fa). 0 Hours.**

Undergraduate research.

**ARCH 2016. Architectural Design III (Fa). 6 Hours.**

Introduction of formal principles and strategies used in space making, focusing on the development of plans and sections. Precedents and the understanding of them through analysis and syntheses are used as a means of examining the past and the present while providing a framework from which personal design sensibilities can evolve. Corequisite: ARCH 2113 and ARCH 2132 and ARCH 2233. Prerequisite: ARCH 1025 and ARCH 1222.

**ARCH 2026. Architectural Design IV (Sp). 6 Hours.**

An elaboration of space-making, addressing three-dimensional aspects of form-making, including the influence of structural systems, articulation of the vertical section, and exterior expression; the role of site as a generator of form; and the overarching importance of technics, including the materiality of space, structure, and light. Corequisite: ARCH 2123 and ARCH 2243. Prerequisite: ARCH 2016 and ARCH 2113 and ARCH 2132 and ARCH 2233.

**ARCH 2113. Architectural Structures I (Fa). 3 Hours.**

Introduction to statics and strength of materials. Building loads are examined as to their effect on the elements of architectural projects. Simple post and beam structures are the focus of this course. Bending, axial, and shear stress are examined in beams and columns. Materials studied include wood, steel, and concrete. Corequisite: ARCH 2016 and ARCH 2132. Prerequisite: ARCH 1212.

**ARCH 2113H. Honors Architectural Structures I (Fa). 3 Hours.**

Introduction to statics and strength of materials. Building loads are examined as to their effect on the elements of architectural projects. Simple post and beam structures are the focus of this course. Bending, axial, and shear stress are examined in beams and columns. Materials studied include wood, steel, and concrete. Corequisite: ARCH 2016 and ARCH 2132. Prerequisite: ARCH 1212. This course is equivalent to ARCH 2113.

**ARCH 2123. Architectural Structures II (Sp). 3 Hours.**

Introduction to the basic theories of structures, structural behavior, and the design of simple structural systems capable of resisting gravity and lateral forces. Provides a basic understanding of structural behavior, organization of framing systems and location of lateral force resisting elements for building structures and other technical systems. Corequisite: ARCH 2026. Prerequisite: ARCH 2113 and ARCH 2132. This course is equivalent to ARCH 2124.

**ARCH 2132. Environmental Technology I (Fa). 2 Hours.**

Introduces theories and concepts of the building thermal, luminous and sonic environments with focus on solar geometry-shading, climate-thermal stresses, natural ventilation, daylight, sound isolation and noise control. The application of these systems to support the design of an environmentally responsive building and its enclosure is addressed. Corequisite: ARCH 2016 and ARCH 2113. Prerequisite: ARCH 1212.

**ARCH 2132H. Honors Environmental Technology I (Fa). 2 Hours.**

Introduces theories and concepts of the building thermal, luminous and sonic environments with focus on solar geometry-shading, climate-thermal stresses, natural ventilation, daylight, sound isolation and noise control. The application of these systems to support the design of an environmentally responsive building and its enclosure is addressed. Corequisite: ARCH 2016 and ARCH 2113. Prerequisite: ARCH 1212. This course is equivalent to ARCH 2132.

**ARCH 2233. History of Architecture I (Fa). 3 Hours.**

Critical study and analysis of world architecture from ancient times through the Middle Ages, comprising the ancient Americas, Asia, Mesopotamia, and Egypt; Classical, Byzantine, and Islamic architecture and vernacular design; and the early Christian, Romanesque, and Gothic periods.

**ARCH 2233H. Honors History of Architecture I (Fa). 3 Hours.**

Critical study and analysis of world architecture from ancient times through the Middle Ages, comprising the ancient Americas, Asia, Mesopotamia, and Egypt; Classical, Byzantine, and Islamic architecture and vernacular design; and the early Christian, Romanesque, and Gothic periods. Prerequisite: Honors candidacy. This course is equivalent to ARCH 2233.

**ARCH 2243. History of Architecture II (Sp). 3 Hours.**

Critical study and analysis of world architecture from the fifteenth to the mid-nineteenth centuries. Encompasses early modern Europe (Renaissance, Baroque, and Neoclassical) as well as two or more of the following: colonial New Spain, early modern Japan, and/or early modern Islamic empires in Africa, the Middle East, and Asia. Vernacular American building is surveyed as well as architecture in the nineteenth-century, including Beaux-Arts design and the introduction of industrial materials. Prerequisite for architecture majors only: ARCH 2233.

**ARCH 2243H. Honors History of Architecture II (Sp). 3 Hours.**

Critical study and analysis of world architecture from the fifteenth to the mid-nineteenth centuries. Encompasses early modern Europe (Renaissance, Baroque, and Neoclassical) as well as two or more of the following: colonial New Spain, early modern Japan, and/or early modern Islamic empires in Africa, the Middle East, and Asia. Vernacular American building is surveyed as well as architecture in the nineteenth-century, including Beaux-Arts design and the introduction of industrial materials. Prerequisite: Architecture majors only. Corequisite: ARCH 2233 and honors candidacy. This course is equivalent to ARCH 2243.

**ARCH 2600. Undergraduate Research Assistant (Sp, Su, Fa). 0 Hours.**

Undergraduate research.

**ARCH 2993. Art and Culture in Italy (Sp, Fa). 3 Hours.**

The evolution of culture and aesthetics and their immediate relationship with the creation of Italy's masterpieces in art and architecture. Includes site visits and lectures. Offered in the Rome study abroad semester.

**ARCH 3016. Architectural Design V (Fa). 6 Hours.**

Emphasis on issues of design process, exploration of internal and external determinants of form and the integration of appropriate technologies in design solutions. Corequisite: ARCH 3134 and ARCH 4433. Prerequisite: ARCH 2026 and ARCH 2123 and ARCH 2243.

This course is equivalent to ARCH 301.

**ARCH 3026. Architectural Design VI (Sp). 6 Hours.**

Studio-based analysis and design of structural and enclosure systems for buildings with particular emphasis on systems interface and application within the context of design exercises. Investigations of the appropriate use of materials and assemblies for varied programmatic and environmental criteria. Twelve hours of studio each week. Corequisite: ARCH 4523. Prerequisite: ARCH 3016 and ARCH 3134.

**ARCH 303V. Special Projects (Irregular). 1-6 Hour.**

Individual or group investigation in research, visual communication, history, or design concerning special interests of student or faculty. May be repeated for degree credit.

This course is equivalent to ARCH 303.

**ARCH 303VH. Honors Special Projects (Irregular). 1-6 Hour.**

Individual or group investigation in research, visual communication, history, or design concerning special interests of student or faculty. Prerequisite: Honors candidacy. May be repeated for degree credit.

This course is equivalent to ARCH 303.

**ARCH 3143. Building Materials and Assemblies (Sp, Fa). 3 Hours.**

Introduction and comprehensive survey of primary building materials and methods of assembly: their history, properties, use and configuration - both traditional and contemporary, in the service of building construction; their impact on the form, expression and performance of building structures and envelopes. Prerequisite: ARCH 2132, ARCH 2113 and ARCH 2123.

**ARCH 3253. Environmental Technology II (Sp). 3 Hours.**

Covers theoretical foundations and applications of building environmental systems: HVAC with duct layout and controls, indoor air quality, electric lighting, power, acoustics, fire safety and egress, and water and waste. The important role of such systems in the design of buildings is examined through a series of small projects assignments. Prerequisite: ARCH 2113, ARCH 2123, ARCH 2132 and ARCH 3143. This course is cross-listed with ARCH 3253H.

**ARCH 3253H. Honors Environmental Technology II (Sp). 3 Hours.**

Covers theoretical foundations and applications of building environmental systems: HVAC with duct layout and controls, indoor air quality, electric lighting, power, acoustics, fire safety and egress, and water and waste. The important role of such systems in the design of buildings is examined through a series of small projects assignments. Prerequisite: ARCH 2113, ARCH 2123, ARCH 2132 and ARCH 3143. This course is cross-listed with ARCH 3253.

**ARCH 3600. Undergraduate Research Assistant (Sp, Su, Fa). 0 Hours.**

Undergraduate research.

**ARCH 3743. Furniture Design (Irregular). 3 Hours.**

Design concepts and techniques to acquaint the student with the design of furniture; analysis of function, development of design and construction of small pieces of furniture.

**ARCH 4016. Comprehensive Studio (Fa). 6 Hours.**

Emphasis on issues of typology, context and technological suitability as sources of theoretical and developmental responses. Corequisite: ARCH 4154. Prerequisite: ARCH 3026 or ARCH 4126.

**ARCH 4023. Advanced Architectural Studies (Sp, Fa). 3 Hours.**

Advanced seminars in subjects to special interest to students and faculty. May be repeated for degree credit.

**ARCH 4023H. Honors Advanced Architectural Studies (Sp, Fa). 3 Hours.**

Advanced seminars in subjects to special interest to students and faculty. Prerequisite: Honors candidacy. May be repeated for degree credit. This course is equivalent to ARCH 4023.

**ARCH 4026. Comprehensive Studio (Sp). 6 Hours.**

Continuation of Architectural Design VII. Corequisite: ARCH 4154. Prerequisite: ARCH 4016 or ARCH 4116 or ARCH 4126.

**ARCH 4116. Architectural Design - Rome (Sp, Fa). 6 Hours.**

Investigation of complex design problems in the context of the city of Rome, utilizing advanced issues in architectural design and planning. Prerequisite: ARCH 3026 or ARCH 4016.

**ARCH 4126. Architectural Design Latin America (Su). 6 Hours.**

Introduces a complex social and physical urban condition through a process of formal analysis and design executed in a designated country augmented by an intense graphic investigation of urban form encountered through related field trips to the distinct cultural and geographic regions. Prerequisite: ARCH 3026 or ARCH 4016 or ARCH 4026.

**ARCH 4152. Building Systems Integration (Sp, Fa). 2 Hours.**

Promotes the synthesis of building technologies, systems selection and integration in the resolution of a building design. Specifically, the student demonstrates knowledge in the ability to generate digital and analog graphic resolutions highlighting the design response of material, structural and environmental systems in a building. Corequisite: ARCH 4016 or ARCH 4026. Prerequisite: ARCH 2113 and ARCH 2123 and ARCH 2132 and ARCH 3143 and ARCH 3253. This course is cross-listed with ARCH 4152H.

**ARCH 4152H. Honors Building Systems Integration (Sp, Fa). 2 Hours.**

Promotes the synthesis of building technologies, systems selection and integration in the resolution of a building design. Specifically, the student demonstrates knowledge in the ability to generate digital and analog graphic resolutions highlighting the design response of material, structural and environmental systems in a building. Corequisite: ARCH 4016 or ARCH 4026. Prerequisite: ARCH 2113 and ARCH 2123 and ARCH 2132 and ARCH 3143 and ARCH 3253. This course is cross-listed with ARCH 4152.

**ARCH 4433. History of Architecture III (Fa). 3 Hours.**

Critical study and analysis of the history and theories of modern architecture from the mid-nineteenth century to the present. Prerequisite: ARCH 2233 and ARCH 2243 or IDES 2883.

**ARCH 4433H. Honors History of Architecture III (Fa). 3 Hours.**

Critical study and analysis of the history and theories of modern architecture from the mid-nineteenth century to the present. Prerequisite: ARCH 2233, ARCH 2243 and honors candidacy. This course is equivalent to ARCH 4433.

**ARCH 4483. Architecture of the Americas (Irregular). 3 Hours.**

Study of the development of architecture in the Americas from the Pre-Columbian cultures to the present day. Lecture and slides 3 hours per week.

**ARCH 4483H. Honors Architecture of the Americas (Irregular). 3 Hours.**

Study of the development of architecture in the Americas from the Pre-Columbian cultures to the present day. Lecture and slides 3 hours per week. Prerequisite: Honors candidacy. This course is equivalent to ARCH 4483.

**ARCH 4523. Architectural Theory (Sp). 3 Hours.**

Introduction to the lexicon of architecture and the ideas and ideologies that provide the conceptual and critical infrastructure for the discipline. Reading and discussion of representative theory texts. Emphasis on twentieth century modernism and postmodernism, including contemporary speculations on possible and emerging forms of practice after theory. Prerequisite: ARCH 2233, ARCH 2243, and ARCH 4433.

**ARCH 4523H. Honors Architectural Theory (Sp). 3 Hours.**

Introduction to architectural theories and their relationship to modern historiography. Case studies are employed for the critical evaluation of significant texts and the discernment of concepts embedded in textual structures. Reading theory through established historical categories establishes critical insight to the original deployment, negation and resurfacing of architectural theories. Prerequisite: ARCH 2233, ARCH 2243, and ARCH 4433. This course is equivalent to ARCH 4523.

**ARCH 4553. Modern Architecture in Mexico (Su). 3 Hours.**

Overview of the emergence, growth and trends that define the ongoing evolution of modern architecture in Mexico from the first decades of the 20th century to contemporary practice. Offered in the Mexico study abroad semester.



**ARCH 4553H. Honors Modern Architecture in Mexico (Su). 3 Hours.**

Overview of the emergence, growth and trends that define the ongoing evolution of modern architecture in Mexico from the first decades of the 20th century to contemporary practice. Offered in the Mexico study abroad semester.

This course is equivalent to ARCH 4553.

**ARCH 4600. Undergraduate Research Assistant (Sp, Su, Fa). 0 Hours.**

Undergraduate research.

**ARCH 4610. Architecture Cooperative Education I (Irregular). 0 Hours.**

A practicum which introduces and engages the student in the practice and application of the profession. Prerequisite: completion of all third year program requirements, 2.5 minimum GPA and permission of the faculty.

**ARCH 4643. Principles of Sustainable Design (Sp, Fa). 3 Hours.**

In collaboration with the Green Building Council Italia. Provides a basic understanding of key aspects of sustainable design in architecture with particular reference to the experiences and methods developed in Italy and Europe.

**ARCH 4653. Architecture of the City (Sp, Fa). 3 Hours.**

Analysis of Rome's urban form and historical and theoretical information in support of the students' experience. Includes site visits and lectures. Offered in the Rome study abroad semester.

**ARCH 4673. Modern and Contemporary Rome (Sp, Fa). 3 Hours.**

Explores different local conditions that determine main architectural changes that have taken place in Rome during the last century of its urban history. Important works, leading figures and major concepts in contemporary European architecture will be described to introduce examples of modern and contemporary architecture in Rome.

**ARCH 4723. Architectural Research Methods (Fa). 3 Hours.**

Investigation into the practical, theoretical, and methodological strategies necessary for embarking upon architectural inquiry and discourse at a sophisticated level, for instance, in the form of a year-long thesis or independent project. Practical issues of method, such as research skills, literature review, and argument analysis are examined. The classic range of tools for interpreting architecture are surveyed from single-cause explanations (e.g., formalism) to more recent multi-causal theories (e.g., Semiotics, Deconstruction, Post-colonial theory, etc.) for architectural design. Prerequisite: ARCH 2233, ARCH 2243, and ARCH 4433.

**ARCH 4723H. Honors Architectural Research Methods (Fa). 3 Hours.**

Investigation into the practical, theoretical, and methodological strategies necessary for embarking upon architectural inquiry and discourse at a sophisticated level, for instance, in the form of a year-long thesis or independent project. Practical issues of method, such as research skills, literature review, and argument analysis are examined. The classic range of tools for interpreting architecture are surveyed from single-cause explanations (e.g., formalism) to more recent multi-causal theories (e.g., Semiotics, Deconstruction, Post-colonial theory, etc.) for architectural design. Prerequisite: ARCH 2233, ARCH 2243, and ARCH 4433 and honors candidacy.

**ARCH 4843. Medieval Architecture (Irregular). 3 Hours.**

This course traces the history of architecture in Western Europe from c. 300 - 1400. Sites studied include: the early Christian basilicas in Rome, the towered churches of Carolingian emperors, synagogues and mosques of Al-Andalus (Spain), Romanesque monasteries, and Gothic cathedrals. Prerequisite: ARCH 4433. This course is cross-listed with ARHS 4743.

**ARCH 4843H. Honors Medieval Architecture (Irregular). 3 Hours.**

This course traces the history of architecture in Western Europe from c. 300 - 1400. Sites studied include: the early Christian basilicas in Rome, the towered churches of Carolingian emperors, synagogues and mosques of Al-Andalus (Spain), Romanesque monasteries, and Gothic cathedrals. Prerequisite: ARCH 4433. This course is cross-listed with ARHS 4743, ARCH 4843.

**ARCH 4853. Renaissance and Baroque Architecture (Irregular). 3 Hours.**

Study of Renaissance and Baroque architecture in Europe and the New World from 1400 to 1700. With reference to an array of texts, drawings, and the edifices themselves, this course charts the evolution of a commanding Western architectural tradition. Renaissance and Baroque -- with close attention to the social, humanistic, and religious contexts that produced it. Prerequisite: ARCH 4433.

This course is cross-listed with ARHS 4753.

**ARCH 4853H. Honors Renaissance and Baroque Architecture (Irregular). 3 Hours.**

Study of Renaissance and Baroque architecture in Europe and the New World from 1400 to 1700. With reference to an array of texts, drawings, and the edifices themselves, this course charts the evolution of a commanding Western architectural tradition. Renaissance and Baroque -- with close attention to the social, humanistic, and religious contexts that produced it. Prerequisite: ARCH 4433.

This course is cross-listed with ARHS 4753, ARCH 4853.

**ARCH 4863. Saint Peter's and the Vatican (Irregular). 3 Hours.**

Examines art and the architectural history of St. Peter's Basilica in Rome from antiquity to present. Emphasis on the Renaissance/Baroque church and its early Christian predecessor. Students consider the impact of devotional practices and papal politics on the church, the Vatican Palace, and its renown artworks including the Sistine ceiling. Prerequisite: ARCH 2233 or ARCH 2233H and ARCH 2243 or ARCH 2243H and ARCH 4433 or ARCH 4433H.

This course is cross-listed with ARHS 4733.

**ARCH 4863H. Honors St. Peter's and the Vatican (Irregular). 3 Hours.**

Examines art and architectural history of St. Peter's Basilica in Rome from antiquity to present. Emphasis on the Renaissance/Baroque church and its early Christian predecessor. Students consider the impact of devotional practices and papal politics on the church, the Vatican Palace, and its renown artworks including the Sistine ceiling. Prerequisite: ARCH 2233 or ARCH 2233H, and ARCH 2243 or ARCH 2243H and ARCH 4433 or ARCH 4433H.

This course is cross-listed with ARCH 4863, ARHS 4733.

**ARCH 4933. Introduction to Historic Preservation (Sp, Fa). 3 Hours.**

Introduces theoretical, methodological and practical issues of architectural preservation in Europe and, more specifically, in Italy. Addresses history and theory of restoration, basic principles of architectural preservation and methodology in the study and praxis of preservation applied to architecture and the issues posed by the preservation of modern architecture.

**ARCH 4943. Perspectives on Historic Preservation (Fa). 3 Hours.**

Introduction of history, theory, and praxis of preservation design, emphasizing development and implementation of preservation projects in the practices of architecture, landscape architecture and interior design. Central themes include: preservation as a form of design; principles, rationales, and ideologies associated with preservation practice; and sustainable strategies for preservation design.

Prerequisite: ARCH 2233 and ARCH 2243 or LARC 3413 and LARC 4413 or IDES 2883.

This course is cross-listed with LARC 4943, IDES 4943.

**ARCH 4943H. Honors Perspectives on Historic Preservation (Fa). 3 Hours.**

Introduction of history, theory, and praxis of preservation design, emphasizing development and implementation of preservation projects in the practices of architecture, landscape architecture and interior design. Central themes include: preservation as a form of design; principles, rationales, and ideologies associated with preservation practice; and sustainable strategies for preservation design.

Prerequisite: ARCH 2233 and ARCH 2243 or LARC 3413 and LARC 4413 or IDES 2883.

This course is cross-listed with LARC 4943, IDES 4943, ARCH 4943.

**ARCH 5016. Option Studio I (Sp). 6 Hours.**

Project development dependent upon the synthesis of knowledge and application of critical thinking addressing architectural issues at multiple scales. Prerequisite: ARCH 4016 or ARCH 4026 or ARCH 4116 or ARCH 4126.

**ARCH 5016H. Honors Thesis Project I (Sp, Fa). 6 Hours.**

Degree project development dependent upon the synthesis of knowledge and application of critical thinking addressing architectural issues at multiple scales.

Prerequisite: Honors candidacy.

This course is equivalent to ARCH 5016.

**ARCH 5026. Option Studio II (Su). 6 Hours.**

Project resolution including demonstrated skill in generating design ideas supported by clear understanding of issues resulting in comprehensive development and presentation of architectural issues at multiple scales. Prerequisite: ARCH 5016.

**ARCH 5026H. Honors Thesis Project II (Sp, Fa). 6 Hours.**

Degree project resolution including demonstrated skill in generating design ideas supported by clear understanding of issues resulting in comprehensive development and presentation of architectural issues at multiple scales. Prerequisite: Honors candidacy.

This course is equivalent to ARCH 5026.

**ARCH 5253. Architectural Structures Seminar (Irregular). 3 Hours.**

Advanced discussion, investigation, design, and analysis of structural systems, forms, and materials as determinants of architectural design. May be repeated for up to 6 hours of degree credit.

**ARCH 5314. Architectural Professional Practice (Fa). 4 Hours.**

Study of role and responsibility of the architect, owner, and contractor relationships; professional ethics; organization of the architect's office; contracts and other documents; risk management strategies; and the preparation of the technical specifications and bidding documents of the Project Manual. Prerequisite: ARCH 4026 or ARCH 4116 or ARCH 4126.

**ARCH 5493. History of Urban Form (Irregular). 3 Hours.**

The study of pre-industrial urban and architectural design strategies in cities from the Classical through the Baroque eras and their rediscovery in the late 20th century, providing the student with a designer's understanding of a broad range of exemplary urban spaces and the buildings that shape them. Prerequisite: ARCH 2233 and ARCH 2243 and ARCH 4433.

**ARCH 5493H. Honors History of Urban Form (Irregular). 3 Hours.**

The study of pre-industrial urban and architectural design strategies in cities from the Classical through the Baroque eras and their rediscovery in the late 20th century, providing the student with a designer's understanding of a broad range of exemplary urban spaces and the buildings that shape them. Prerequisite: ARCH 2233 and ARCH 2243 and ARCH 4433.

This course is equivalent to ARCH 5493.

**ARCH 5933. Preservation and Restoration (Irregular). 3 Hours.**

History of the preservation and restoration movement in Europe and the U.S.; its relation to the contemporary urban planning and renewal. Modern economic and administrative techniques of preservation. Participation in history surveys at regional and state levels. Prerequisite: ARCH 2233, ARCH 2243, and ARCH 4433.

**ARCH 5943. Preservation Design Technology (Irregular). 3 Hours.**

This course prepares students to work with historic structures by providing an introduction to the history and principles of historic and traditional construction systems, including: concepts and techniques for building conservation, historic materials and technologies, identification of treatments, recordation and research, material properties and behavior, and building forensics. Prerequisite: ARCH 4943 or instructor consent.

**ARCH 5953. Preservation Practice Field Trip (Sp, Su, Fa). 3 Hours.**

Intensive field study of a domestic or foreign site of significant or precedent-setting preservation activity, through a field trip and a course of pre-travel lectures. (Intersessions) Prerequisite: ARCH 4943 or instructor consent. May be repeated for up to 6 hours of degree credit.

## Army ROTC (MILS) Courses

**MILS 1001. Basic Introductory Course to Military Leadership I (Fa). 1 Hour.**

Incorporates various outdoor field craft skills involving both classroom and outdoor instruction. Subjects include small group leadership, rappelling, basic map reading, water safety and first aid. Introduction to organization, values, ethics, personal development and the role of the Army. Classroom 1 hour per week. Lab 2 hours per week. Corequisite: Lab component.

**MILS 1011. Introduction to Military Leadership II (Sp). 1 Hour.**

Incorporates various outdoor field craft involving both classroom and outdoor instruction, intermediate map reading/orienteering, first aid and outdoor cold/hot weather survival skills. Introduction to small group leadership principles. Personal development, ethics, values and the 7 Army values and the role that the Army plays in today's society and world. Classroom 1 hour per week. Lab 2 hours per week. Corequisite: Lab component.

**MILS 1101. Basic Marksmanship (Fa). 1 Hour.**

Introduction to safe use of a rifle and practical application of rifle marksmanship. Course includes weapons safety, mechanics, capabilities, and fundamentals of marksmanship. Includes visit to fire at a local indoor rifle range. Materials and equipment furnished by Department of Military Science.

**MILS 1211. Basic Outdoor Field Craft and Skills (Sp, Fa). 1 Hour.**

Introduction to basic military survival skills and outdoor field craft. Subjects include cold/hot weather survival, water procurement methods, expedient field shelters, signaling, map reading and rappelling technique. Materials and equipment furnished by Department of Military Science. Classroom 2 hours per week.

**MILS 2002. Leadership Development I (Fa). 2 Hours.**

Continuation of basic skills presented in MILS 1001 and MILS 1011. Course focus is on small unit leadership, team building and management skills. Includes an introduction to small unit tactics. Students develop leadership foundations by leading discussions, developing and briefing operation plans using the military decision making model. Classroom 2 hours per week. Lab 1 hour per week. Corequisite: Lab component. Prerequisite: MILS 1001 and MILS 1011 or approval of Professor of Military Science.

**MILS 2012. Leadership Development II (Sp). 2 Hours.**

Continuation of leadership skills presented in MILS 2002. Course focus is on decision making process, time management, and leadership skills. Includes an introduction to military writing and basic tactics. Cadets continue training in land navigation, first aid, and outdoor field craft. Classroom 2 hours per week. Lab 1 hour per week. Corequisite: Lab component. Prerequisite: MILS 1001 and MILS 1011 or approval of Professor of Military Science.

**MILS 2101. Advanced Rifle Marksmanship (Sp). 1 Hour.**

Course to teach students the fundamentals of Advanced Rifle Marksmanship. Class is conducted once a week with topics including: Air rifle, small bore firing, advanced practical exercises of different shooting positions and marksmanship competition with other universities. Prerequisite: MILS 1101.

**MILS 3004. Applied Leadership I (Fa). 4 Hours.**

Development of managerial and leadership abilities, maximizing performance-oriented 'hands-on' training. Students learn advanced infantry tactics and demonstrate their leadership potential using this medium. Students are required to lead in drill and ceremony, physical training, and tactical infantry situations. The training is intended to prepare the student for the ROTC Advanced Camp experienced normally in the summer prior to the senior year or 4th year of ROTC. Lecture 3 hours, laboratory 3 hours per week, plus 3 hours of physical training are conducted weekly. One weekend field training exercise is required per semester. Corequisite: Lab component. Prerequisite: Junior standing plus one of the following conditions: completion of ROTC basic camp, veteran status, or completion of basic training with any component of the U.S. Armed Forces. Students must also obtain consent from the MSIII Advisor and the Professor of Military Science.

**MILS 3014. Applied Leadership II (Sp). 4 Hours.**

Development of managerial and leadership abilities, maximizing performance-oriented 'hands-on' training. Students learn advanced infantry tactics and demonstrate their leadership potential using this medium. Students are required to lead in drill and ceremony, physical training, and tactical infantry situations. The training is intended to prepare the student for the ROTC Advanced Camp experienced normally in the summer prior to the senior year or 4th year of ROTC. Lecture 3 hours, laboratory 3 hours per week, plus 3 hours of physical training are conducted weekly. One weekend field training exercise is required per semester. Corequisite: Lab component. Prerequisite: Junior standing plus one of the following conditions: completion of ROTC basic camp, veteran status, or completion of basic training with any component of the U.S. Armed Forces. Students must also obtain consent from the MSIII Advisor and the Professor of Military Science.

**MILS 4001. Advanced Military Issues (Sp, Fa). 1 Hour.**

Individual study for advanced undergraduates. Students will research, write a paper, and give an oral presentation of a current military issue. Prerequisite: PMS approval.

**MILS 4004. Advanced Leadership I (Fa). 4 Hours.**

The study of various military organizations and their role in military operations. Discussion of command and staff management in military organizations, executive responsibility of Army commissioned officers, service customs, courtesies, and traditions. The senior year includes the study of personnel management, professional ethics, the military justice system, and the Army's training and maintenance management system. Lecture 3 hours, laboratory 3 hours, physical training 3 hours per week. MS IV cadets plan and participate in 1 field training exercise per semester. Corequisite: Lab component. Prerequisite: Successful completion of MS III course work (MILS 3004 and MILS 3014).

**MILS 4011. Advanced Military Correspondence (Sp, Fa). 1 Hour.**

Practicum for advanced undergraduates. Students submit prepared military correspondence projects written in the military style using military forms and formats. Prerequisite: PMS approval.

**MILS 4014. Advanced Leadership II (Sp). 4 Hours.**

The study of various military organizations and their role in military operations. Discussion of command and staff management in military organizations, executive responsibility of Army commissioned officers, service customs, courtesies, and traditions. The senior year includes the study of personnel management, professional ethics, the military justice system, and the Army's training and maintenance management system. Lecture 3 hours, laboratory 3 hours, physical training 3 hours per week. MS IV cadets plan and participate in 1 field training exercise per semester. Corequisite: Lab component. Prerequisite: Successful completion of MS III course work.

## Art (ARTS) Courses

**ARTS 1013. Introduction to Drawing from Observation (Su). 3 Hours.**

Problems dealing with materials and techniques of drawing, including basic concepts of line, perspective, and value.

**ARTS 1313. Two-Dimensional Design (Sp, Fa). 3 Hours.**

Studio problems in the use of line, shape, texture, value, and color and their relationships.

This course is equivalent to ART 1313.

**ARTS 1323. Three-Dimensional Design (Sp, Fa). 3 Hours.**

Studio problems with the elements of three-dimensional design: structure, space, form, surface, and their relationship.

This course is equivalent to ART 1323.

**ARTS 1919C. Studio Foundation I (Sp, Fa). 9 Hours.**

Intensive, studio-format coursework in a variety of two-dimensional, three-dimensional, and time-based media provides an introduction to fundamentals of art and design with emphasis on components of the creative process; research and critical thinking; investigation of materials; and instruction in software and fabrication techniques. 9 credit hours. Corequisite: Drill component.

**ARTS 1929C. Studio Foundation II (Sp, Fa). 9 Hours.**

Continuation of Studio Foundation I. Intensive intermediate studio projects in a variety of two-dimensional, three-dimensional, and time-based mediums; instruction in software and fabrication techniques; and the introduction of professional practices, including the assemblage and maintenance of a foundational portfolio; required attendance at weekly seminar. Corequisite: Drill component. Prerequisite: ARTS 1919C.

**ARTS 2313. Digital Tools and Concepts (Sp, Fa). 3 Hours.**

Introduces Visual Design students to design concepts with a concentration on professional industry tools. Emphasizes development of visual problem solving while creating well-crafted solutions. Prerequisite: ARTS 1919C and ARTS 1929C.

**ARTS 3003. Intermediate Drawing (Sp, Fa). 3 Hours.**

Continued training in fundamental drawing skills. Builds upon observational drawing skills with analytic approaches, including the spatial logic of translating three dimensions to two, constructing global value relationships, and making meaningful compositions by linking formal decisions to conceptual intent. Prerequisite: ARTS 1919C and ARTS 1929C; or ARTS 1013 and instructor consent.

**ARTS 3013. Figure Drawing I (Sp). 3 Hours.**

Investigation of the human form through drawing, with special emphasis on gestural modes of working. Careful analysis of human anatomy, including internal and externally visible structures, position and movement of joints, as well as anatomical proportions and their variations among different individuals. Prerequisite: ARTS 3003.

**ARTS 3023. Drawing: Advanced Form and Content (Irregular). 3 Hours.**

This course will provide a technical and conceptual basis for independent exploration in the medium of drawing. A variety of approaches and starting points will be explored, including abstract/non-representational drawing, conceptual drawing, process-based drawing, and interpretive representational drawing. Experimental methods and media will be encouraged. Prerequisite: ARTS 3003 and junior or senior standing.

**ARTS 3033. Drawing With Color (Irregular). 3 Hours.**

Color issues pertaining to drawing. Projects will challenge students to accurately perceive and recreate color relationships by building optical mixtures of colored marks to create a continuous world of color from a limited set of starting colors. Prerequisite: ARTS 3003.

**ARTS 3043. Illustration: Communicating With Drawing (Irregular). 3 Hours.**

How to create images that carry specific, unambiguous meanings - to speak with pictures. Projects will explore various modes of visual communication and relationships to texts, including narrative, editorial and sequential illustrations. Prerequisite: ARTS 3003 or instructor consent.

**ARTS 3053. Drawing in the Expanded Field (Irregular). 3 Hours.**

A philosophical examination of the discipline of drawing through experimental works. Initial projects will question the essential aspects of drawing-ness, pushing beyond the typical materials and processes to make drawings with unusual properties. In the second half of the course, students will take on a sustained individual exploration. Prerequisite: ARTS 3003 or instructor consent.

**ARTS 3103. Painting I (Sp, Fa). 3 Hours.**

An introduction to oil painting, focusing on painting from direct observation. Topics to be covered include: materials, palette, understanding perceptual color and color theory, and development of the painting through use of layers, value, mark-making, composition, light, and space. Prerequisite: ARTS 1313 and ARTS 2013; or ARTS 1919C and ARTS 1929C.

**ARTS 3123. Painting: Water Media (Irregular). 3 Hours.**

Introduction to materials and techniques of watercolor and acrylic painting. Form, composition, and content to be studied through observation and imagination. Traditional techniques as well as experimentation and personal expression are to be explored. Prerequisite: ARTS 3103 or ARTS 2003.

**ARTS 3133. Figure Painting (Irregular). 3 Hours.**

Introduction to representational and interpretive figure painting and to contemporary issues in figurative painting. The model as well as other visual sources will be used as a basis for observation, interpretation and invention. Prerequisite: ARTS 2013, ARTS 3103.

**ARTS 3153. Painting Perception Into Abstraction (Irregular). 3 Hours.**

Investigation of the abstraction of visual phenomena. Various starting points and approaches will be studied. Emphasis on the analysis of form, the creation of pictorial structure, and the conceptual basis of perceptual abstraction. Prerequisite: ARTS 3103.

**ARTS 3163. Abstract Painting (Irregular). 3 Hours.**

An introduction to the material, formal, and conceptual aspects of abstract painting. Projects will explore a variety of starting points for the invention of form in painting. Examines the construction of meaning in modern and contemporary abstract painting through studio work, discussion, writing assignments and lectures. Prerequisite: ARTS 3103.

**ARTS 3173. Contemporary Representational Painting (Irregular). 3 Hours.**

Contemporary approaches to the use of imagery in painting. Projects emphasize the systematic alteration of color, form and space through strategies of reduction, omission, distortion and compositing. Prerequisite: ARTS 3103.

**ARTS 3203. Beginning Sculpture: Fundamentals of Modeling, Mold Making & Casting (Sp, Su). 3 Hours.**

An introduction to fundamental additive and subtractive sculpture techniques and methods of seeing and working that give expression to material form. Beginning techniques in modeling, carving, mold making, and basic casting are demonstrated. Lectures, readings, and critiques will develop student awareness of traditional building techniques which inform contemporary sculpture practices. Prerequisite: ARTS 1323; or ARTS 1919C and ARTS 1929C.

**ARTS 3213. Beginning Sculpture: Construction Methods I (Su, Fa). 3 Hours.**

A focus on material sensitivity through thoughtful and skillful additive approaches. Woodworking and metalworking are introduced as methods to examine structural and spatial possibilities. Through examining and questioning the interplay of form, material, technique, and content, students will develop their knowledge of traditional fabrication processes, which inform contemporary sculpture. Prerequisite: ARTS 1323; or ARTS 1919C and ARTS 1929C.

**ARTS 3223. Beginning Sculpture: Critical Issues I (Sp, Su, Fa). 3 Hours.**

An experimental lab focused on critical issues in contemporary sculpture. Students will be challenged to dissect their process of making, to question the nature of sculpture and art-making in the 21st century, and the context in which art is created, shown, and distributed. Prerequisite: ARTS 1323 or (ARTS 1919C and 1929C).

**ARTS 3313. Introduction to Typography (Fa). 3 Hours.**

Examination of letterform construction, including anatomy and architecture. Analysis through a historical lens, exploring technological and cultural contexts. Typographic nuance and connotation. Introduction of the grid as a means to understand layout and organize typography. Prerequisite: ARTS 1919C and ARTS 1929C and Bachelor of Fine Arts in Graphic Design majors only.

**ARTS 3323. Typographic Systems (Sp). 3 Hours.**

Will introduce the complexity of adding imagery, both photographic and illustrative, into typographic layout. Management of hierarchy in a more advanced way through grid usage. Artifacts will span print to web, exploring how typography must always adapt to new contexts and audiences. Prerequisite: ARTS 2313 and ARTS 3313 and Bachelor of Fine Arts in Graphic Design majors only.

**ARTS 3363. Graphic Design I (Sp, Fa). 3 Hours.**

An overview of design principles and the application of design processes to posters, logos, stationery, and publication design. Conceptual development and visual and technical problem solving skills are emphasized. Prerequisite: ARTS 1013 and ARTS 2313; or ARTS 1919C and 1929C.

**ARTS 3383. User Experience (Fa). 3 Hours.**

Prepare students to design with usability and function at the forefront of their decision making. Personas, user scenarios and research to guide the design process. Exploration of the field of information architecture in order to clearly structure information and experience. Introduction to HTML, CSS, and other interactive languages. Prerequisite: ARTS 3323 and Bachelor of Fine Arts in Graphic Design majors only.

**ARTS 3393. Identity Design (Fa). 3 Hours.**

Beginning identity design course, focusing on theory and application of semiotics, through creation of icon sets and small scale applications. Emphasis placed on connotation, creating messaging and formal development. Prerequisite: ARTS 3323 and Bachelor of Fine Arts in Graphic Design majors only.

**ARTS 3403. Printmaking: Etching (Sp, Fa). 3 Hours.**

Introduction to intaglio printmaking processes including etching, aquatint, drypoint, collagraph, photo processes, and various inking methods. Prerequisite: ARTS 1919C and ARTS 1929C.

**ARTS 3413. Etching II (Sp). 3 Hours.**

Advanced study of intaglio printmaking processes with emphasis on individual technical research, development of personal imagery, and refinement of skills. Prerequisite: ARTS 3403.

**ARTS 3423. Printmaking: Lithography (Sp). 3 Hours.**

Introduction to lithographic printmaking processes including wet and dry media on stone and plate, photo processes, and various inking methods. Prerequisite: ARTS 1919C and ARTS 1929C.

**ARTS 3433. Printmaking: Relief (Sp). 3 Hours.**

Exploration in the technical, formal, conceptual, and historical aspects of relief printmaking through traditional and current methods of woodcut, wood engraving, linoleum, CNC routing, digital technologies, moku hanga, and other methods. Prerequisite: ARTS 3403.

**ARTS 3443. Printmaking: Screenprinting (Fa). 3 Hours.**

Introduction to serigraphic techniques, including cut stencils, photosensitive stencils, resist methods, additive and reductive printing, and other processes. Prerequisite: ARTS 1919C and ARTS 1929C; or ARCH 1025.

**ARTS 3453. Screenprinting II (Irregular). 3 Hours.**

Advanced study of serigraphic printmaking processes with emphasis on individual technical research, development of personal imagery, and refinement of skills. Prerequisite: ARTS 3443.

**ARTS 3463. Introduction to Printmaking (Sp, Fa). 3 Hours.**

Introduction to the practice, theory, and history of printmaking and graphic work. Concentration on basic relief, intaglio, monoprinting methods, and other processes. Prerequisite: ARTS 1919C and 1929C; or ARCH 1025.

**ARTS 3473. Printmaking: Book & Letterpress (Irregular). 3 Hours.**

Exploration in the technical, formal, conceptual, and historical aspects of book arts through traditional and current Eastern and Western methods of various book forms, book construction, binding, design, content, letterpress printing, and conceptual considerations. Prerequisite: ARTS 3463 or ARTS 3443.

**ARTS 3503. Ceramics: Handbuilding I (Su, Fa). 3 Hours.**

this introductory course investigates the techniques, materials, and themes common to hand-built ceramics. Students will also be introduced to ceramic studio processes, including clay and glaze mixing, low temperature gas and electric firing, and studio safety procedures. Prerequisite: ARTS 1013 and ARTS 1313 and ARTS 1323; or ARTS 1919C and ARTS 1929C.

**ARTS 3523. Ceramics: Wheelthrowing I (Sp, Su). 3 Hours.**

This introductory course investigates the techniques, materials, and themes common in wheel-thrown ceramics. Students will also be introduced to ceramic studio processes, including clay and glaze mixing, high temperature gas and electric firing, and studio safety procedures. Prerequisite: ARTS 1013 and ARTS 1313 and ARTS 1323; or ARTS 1919C and ARTS 1929C.

**ARTS 3533. Ceramics: Wheelthrowing II (Irregular). 3 Hours.**

This concept-driven intermediate-level course focuses on expanding the students' skills and knowledge of wheel-thrown and hand-built forms. Additional emphasis will be placed on clay and glaze testing, and understanding the processes of firing in electric, gas, salt/soda, and wood-firing kilns. Prerequisite: ARTS 3523.

**ARTS 3543. Ceramics: Slip-Casting (Sp). 3 Hours.**

This concept-driven intermediate-level course focuses on the techniques and approaches common to ceramic slip-casting. Plaster mold-making, model development and preparation, slip mixing, and slip-casting are emphasized. Students will utilize low and high temperature gas and electric firings. Prerequisite: ARTS 3503.

**ARTS 3803. Photography I (Sp, Fa). 3 Hours.**

Beginning photography. Introduction to analog and digital B & W materials, techniques, and theory. Development of visual ideas through assignments, critiques, slide lectures, and demonstrations. Prerequisite: ARTS 1313; or ARTS 1919C and ARTS 1929C.

**ARTS 3813. Alternative Photographic Processes (Irregular). 3 Hours.**

Advanced B & W materials, techniques, and theory. Introduction to "non-traditional" materials, techniques, and theory (Cyanotype, Van Dyck Brownprint, Gum Biochromate, KWIK-PRINT, etc.). Assignments, critiques, slide lectures, and demonstrations. Prerequisite: ARTS 3803.

**ARTS 3933. Color Studies (Fa). 3 Hours.**

Investigation of color qualities and relationships through research and studio problems. Prerequisite: ARTS 1313 and ARTS 1323 and ARTS 2013; or ARTS 1919C and ARTS 1929C.

**ARTS 4023. Figure Drawing II (Irregular). 3 Hours.**

Advanced study of the figure with emphasis on figure structure and its relationship to pictorial form in drawing. Prerequisite: ARTS 2013.

**ARTS 404V. Special Problems in Drawing (Sp, Su, Fa). 1-6 Hour.**

Individual projects in drawing arranged with the instructor. Prerequisite: ARTS 3023. May be repeated for up to 6 hours of degree credit.

**ARTS 4133. Landscape Painting (Irregular). 3 Hours.**

Exploration of perceptual and conceptual approaches to painting the landscape. Both traditional and experimental techniques of oil painting will be studied. Includes outdoor on-site painting. Prerequisite: ARTS 3103.

**ARTS 4153. Topics in Advanced Painting (Irregular). 3 Hours.**

Topics in advanced and experimental painting. Prerequisite: 6 hours of painting. May be repeated for up to 12 hours of degree credit.

**ARTS 417V. Special Problems in Painting (Sp, Fa). 1-6 Hour.**

Individual technique and subject matter projects to be arranged with the instructor. May be repeated for up to 6 hours of degree credit.

**ARTS 4183. Contemporary Issues in Painting (Fa). 3 Hours.**

Examination of concepts and themes relevant to the contemporary practice of painting, accompanied by the production of an individually determined body of work. Emphasis on studio work supplemented by research, critique, reading and writing. Pre- or Corequisite: Three hours of painting from ARTS 3123, ARTS 3133, ARTS 3153, ARTS 3163, ARTS 3173, ARTS 4133, or ARTS 4153. Prerequisite: ARTS 3103. May be repeated for up to 6 hours of degree credit.

**ARTS 4193. Advanced Painting (Sp). 3 Hours.**

Intensive course for those art majors concentrating in painting. Extended, individually determined projects will emphasize production of a well researched, conceptually grounded and cohesive body of work. Supplemented by reading, writing and discussion of contemporary issues in painting. Pre- or Corequisite: Three hours of painting from ARTS 3123, ARTS 3133, ARTS 3153, ARTS 3163, ARTS 3173, ARTS 4133, or ARTS 4153. May be repeated for up to 6 hours of degree credit.

**ARTS 4203. Intermediate Sculpture: Modeling, Moldmaking, & Casting II (Su, Fa). 3 Hours.**

Merging historical methodology and advanced technology from lost-wax metal casting to digital fabrication, a continuation of additive and subtractive techniques in modeling, carving, moldmaking, and casting. Specific problems utilizing various media are preceded by readings, lectures, and demonstrations. Prerequisite: ARTS 3203.

**ARTS 4213. Intermediate Sculpture: Mixed Media & Spatial Context (Fa). 3 Hours.**

An exploration in assemblage, installation, environmental art, light, and kinetics as they apply to contemporary sculptural language. Specific problems utilizing various media are preceded by readings, lectures, and demonstrations. Prerequisite: ARTS 3203 and ARTS 3213.

**ARTS 4223. Advanced Sculpture: Critical Issues II (Sp). 3 Hours.**

A directed analysis of form and its relationship to content based on the development of work in students' medium of choice. Students will acquire the technical skills needed to meet personal vision through guidance of the instructor. Research evidenced in work, discussions, and critiques is emphasized. Prerequisite: 6 hours of intermediate level sculpture courses: Choose from ARTS 4203, ARTS 4213, and ARTS 4243.

**ARTS 423V. Special Problems in Sculpture (Sp, Fa). 1-6 Hour.**

Individual projects in sculpture with emphasis on materials exploration. Prerequisite: ARTS 4223. May be repeated for up to 6 hours of degree credit.

**ARTS 4243. Intermediate Sculpture: Construction Methods II (Sp). 3 Hours.**

A deeper investigation into construction techniques to further examine structural and spatial possibilities and question the relationship between traditional and contemporary sculptural materials. Through a more profound and critical analysis of form, material, process, content, and context, construction methodology will be established as a foundation for individual practice. Prerequisite: ARTS 3213.

**ARTS 4303. Professional Development and Seminar (Sp). 3 Hours.**

Preparation of students for professional practice and job seeking. Development of online and print portfolio and other collateral. Contemporary design practice through discussions, reading, writing, guest speakers and studio visits. Emphasis on assisting each student in preparing for their unique future. Prerequisite: ARTS 3383 and ARTS 3393 and Bachelor of Fine Arts in Graphic Design majors only.

**ARTS 4313. Interactive Language (Sp). 3 Hours.**

Advanced course utilizing interactive languages to create responsive experiences for the web, touch screens. Exploration of the intersection of linear and non-linear design experiences in the application of motion to web. Prerequisite: ARTS 3383 and ARTS 3393 and Bachelor of Fine Arts in Graphic Design majors only.

**ARTS 4323. Technology in Context (Fa). 3 Hours.**

Advanced course focusing on speculative explorations in the world of interaction design. Much of the work will be touch and gesture based and dealing with the built environment. Application of knowledge about proper workflow and execution in an advanced way. Prerequisite: ARTS 4303 and ARTS 4313 and Bachelor of Fine Arts in Graphic Design majors only.

**ARTS 4343. Identity Systems (Fa). 3 Hours.**

Advanced identity design course emphasizing creating cohesive messaging systems that cover a wide range of media. Creation of identity systems that are based on research and appropriate to content, context and audience. Media may span environmental, motion, print, web and packaging. Prerequisite: ARTS 4303 and ARTS 4313 and Bachelor of Fine Arts in Graphic Design majors only.

**ARTS 4353. Human Centered Design (Fa). 3 Hours.**

Research-based studio introducing design methods that focus on an audience centric process. Exposure to communication theory, modes of persuasion, sustainability, how to design for niche audiences. Prerequisite: ARTS 4303 and ARTS 4313 and Bachelor of Fine Arts in Graphic Design majors only.

**ARTS 4363. Design Co-op (Sp, Fa). 3 Hours.**

Collaboration with an organization, or design firm, providing opportunity to address problems existing outside of the classroom with the focus shifting between design for good initiatives. Collaboration, research, problem seeking and solving will be addressed. Prerequisite: ARTS 4323, ARTS 4343, and ARTS 4353 and Bachelor of Fine Arts in Graphic Design majors only.

**ARTS 4373. Advanced Typography (Sp). 3 Hours.**

Culminating typography course, exploration of typography at an advanced level through a variety of projects. Projects may range from type design to type in motion to complex publication design. Exhibition of the utmost professional ideation, process, execution and craft expected. Prerequisite: ARTS 4323, ARTS 4343, and ARTS 4353 and Bachelor of Fine Arts in Graphic Design majors only.

**ARTS 4383. Degree Project (Sp). 3 Hours.**

Capstone course requiring completion of a self-directed project through in-depth research, writing and making, offering an opportunity to specialize prior to entering the job market. Prerequisite: ARTS 4323, ARTS 4343, and ARTS 4353 and Bachelor of Fine Arts in Graphic Design majors only.

**ARTS 439V. Special Problems in Graphic Design (Sp, Fa). 1-6 Hour.**

Advanced individual projects in graphic design. Prerequisite: Any 4000 level ARTS visual design course except ARTS 4343. May be repeated for up to 6 hours of degree credit.

**ARTS 4413. Printmaking: Intermediate (Sp, Fa). 3 Hours.**

Continued study in various printmaking media with emphasis on individual technical research, development of personal imagery, and refinement of skills. Two 3000-level printmaking courses required. Prerequisite: ARTS 3403 or ARTS 3423 or ARTS 3443 or ARTS 3463 and ARTS 3403 or ARTS 3423 or ARTS 3443 or ARTS 3463.

This course is cross-listed with ARTS 4413H.

**ARTS 4483. Printmaking: Advanced (Sp, Fa). 3 Hours.**

Continued advanced study in various printmaking media with emphasis on individual technical research, development of personal imagery, and refinement of skills. Prerequisite: ARTS 4413.

**ARTS 449V. Special Problems in Prints (Sp, Fa). 1-6 Hour.**

Advanced individual study of one or more printmaking processes with emphasis on individual technical research, development of personal imagery, and refinement of skills. Prerequisite: ARTS 4413. May be repeated for up to 6 hours of degree credit.

**ARTS 4503. Intermediate Ceramics (Fa). 3 Hours.**

Focuses on discovering and developing a personal approach to the creation of ceramic objects. Students will explore and test clay bodies, surface treatments, and firing methods while simultaneously exploring ideas, formats, contexts, and interpretations to their work. Any or all ceramic processes may be used. Pre- or corequisite: ARTS 3503 or ARTS 3523 or ARTS 3543.

**ARTS 4513. Technical Ceramics (Irregular). 3 Hours.**

Advanced study of ceramic materials and processes. Clay composition, clay body formulation and analysis, glaze composition and formulation, firing methods (low, mid, and high-temperature gas, electric and atmospheric firings), and kiln design will be covered in depth. Prerequisite: ARTS 4503.

**ARTS 4553. Ceramics-Handbuilding III (Irregular). 3 Hours.**

Continued advanced work in handbuilding techniques and glaze calculation. Prerequisite: ARTS 3513.

**ARTS 4573. Advanced Ceramics (Sp, Fa). 3 Hours.**

This course focuses on the generation and development of ideas and objects to form a cohesive body of work. Students will lead their own explorations, technically and conceptually, while working toward a professional-level standard of output. Any or all ceramic processes may be used. Prerequisite: ARTS 3503 and ARTS 3523 and ARTS 3543 and ARTS 4503. May be repeated for up to 6 hours of degree credit.

**ARTS 458V. Special Problems in Ceramics (Sp, Fa). 1-3 Hour.**

Individual projects in ceramic techniques. Prerequisite: ARTS 3503 or ARTS 3523. May be repeated for up to 6 hours of degree credit.

**ARTS 459V. Individual Instruction (Sp, Fa). 1-6 Hour.**

Special projects on an arranged basis for advanced students in any area of art in which the catalog sequence of courses has been completed. May be repeated for up to 6 hours of degree credit.

**ARTS 4613. Visual Design: Web I (Fa). 3 Hours.**

This course introduces students to the World Wide Web and the technologies and practices involved in creating a successful Web presence. Discussions include interactivity, usability and accessibility with an emphasis on standards-based hand-coding with a special attention to graphic design standards.

**ARTS 4623. Visual Design: Web II (Sp). 3 Hours.**

This advanced web design course deals with responsive web coding for desktop computers and mobile devices, including advanced HTML5, CSS3, PHP, databases, video and audio methods, content management systems and social media integration. Prerequisite: ARTS 4613.

**ARTS 4663. Visual Design: Motion Design (Sp). 3 Hours.**

In this course, students will explore motion graphic design as it combines 2D and 3D animation, typography, video footage photography and sound. The projects will explore elements of storytelling, moving compositions and animation principles that focus on Web delivery, using mainly Apple Final Cut Pro and Adobe After Effects. Prerequisite: ARTS 3363.

**ARTS 469V. Special Problems In Interactive Design (Irregular). 1-6 Hour.**

Students work on special projects on an individual basis with instructor, exploring innovative interface design, in-depth projects potentially exploring solutions to and awareness of social issues, with various types of media, from DVD and digital video to Web and motion graphics. Cross-discipline collaboration is encouraged. Prerequisite: ARTS 4613 and ARTS 4623. May be repeated for up to 6 hours of degree credit.

**ARTS 4813. Digital Photography (Sp, Fa). 3 Hours.**

Introduction to digital photography production, techniques and theory. Digital input from scanning (flatbed & slide/negative), digital cameras, video and internet sources. Computer assisted manipulation of imagery for correction and abstraction. Output to a digital printing systems, analog systems (film recorder), servers and Internet. Prerequisite: ARTS 3803.

**ARTS 4823. Color Photography I (Irregular). 3 Hours.**

Introduction to color production. Color materials, techniques and theory. Direct reversal transparencies and prints, color negative processing and printing, and manipulation of color materials. Assignments, demonstrations, critiques, and lectures. Prerequisite: ARTS 3803.

**ARTS 4833. Advanced Black and White Photography (Irregular). 3 Hours.**

Advanced black and white theory, practice and techniques including: Zone System, large format camera and studio lighting. Prerequisite: ARTS 3803.

**ARTS 484V. Special Problems in Photography (Sp, Fa). 1-6 Hour.**

Individual instruction for advanced undergraduates and graduate students. Special projects in photography designated by students in collaboration with faculty. Prerequisite: ARTS 3803 and (ARTS 3813 or ARTS 4823 or ARTS 4833). May be repeated for up to 6 hours of degree credit.

**ARTS 4853. Documentary Photography (Irregular). 3 Hours.**

This course will introduce students to a variety of methods used in the area of documentary photography in order to give them the conceptual and technical skills necessary to create extended projects that focus on documenting and visually exploring subjects in an in-depth manner. Prerequisite: ARTS 3803.

**ARTS 4883. Bookmaking (Irregular). 3 Hours.**

Introduction to the creation of unique, limited edition artist's bookworks -- with emphasis on technical knowledge and conceptual understanding of the book form as a means of artistic expression.

**ARTS 490VH. Honors Thesis in Studio Art (Sp, Fa). 1-6 Hour.**

Special problems in studio art. Prerequisite: Junior standing. May be repeated for up to 12 hours of degree credit.

**ARTS 491V. Internships in Art (Sp, Su, Fa). 1-3 Hour.**

Credit for practical experience gained through internships in studio art, gallery practices and/or art education. Report required from intern and field supervisor on significant accomplishments and/or progress. Prerequisite: Junior standing and art major. May be repeated for up to 6 hours of degree credit.

**ARTS 4923. Professional Development (Sp, Fa). 3 Hours.**

The creation and presentation of a portfolio of work in the student's area of concentration, accompanied by creation of relevant materials for successful professional practice. Art Education students may choose ARED 476V, Student Teaching, (12 credit hours) as a substitution. Prerequisite: Art majors only. Requires junior, senior or graduate standing.

**ARTS 493V. Fine Arts Gallery Internship (Sp, Su, Fa). 1-3 Hour.**

Study all aspects of operating the Fine Arts Gallery. Research and preparation for exhibitions, organize and install exhibits, care of art works, create and distribute publicity, arrange interviews with newspapers, and other media.

**ARTS 494V. Graphic Design Internship (Sp, Su, Fa). 1-6 Hour.**

Credit for practical experience gained through internship in graphic design. Report required from intern and field supervisor on progress and significant accomplishments. 3 credit hours per semester. Prerequisite: Any 4000 level ARTS visual design course except ARTS 4343. May be repeated for up to 6 hours of degree credit.

**ARTS 495V. Special Topics (Irregular). 1-6 Hour.**

May be offered in a subject not specifically covered by the courses otherwise listed. May be repeated for up to 6 hours of degree credit.

**ARTS 498V. Senior Thesis (Sp, Su, Fa). 1-6 Hour.****ARTS 5013. Graduate Drawing (Fa). 3 Hours.**

Graduate level study of drawing materials and techniques. Prerequisite: Graduate standing.

**ARTS 5913. Graduate Seminar in Studio Art (Fa). 3 Hours.**

Examination and analysis of current issues and professional practices in contemporary visual art. The relationship of current theoretical literature to studio practice will be explored through writings, presentations and discussions of graduate student research. Prerequisite: Admission to MFA program. May be repeated for up to 6 hours of degree credit.

**ARTS 601V. Master of Fine Arts Exhibition (Sp, Su, Fa). 1-6 Hour.**

Production and presentation of a one person exhibition of art work. The M.F.A. candidate will be responsible for making three acceptable slide sets of the exhibition and exhibition statements. Prerequisite: M.F.A. candidacy.

**ARTS 602V. Graduate Drawing (Sp, Fa). 1-6 Hour.**

Individual problems in drawing techniques. Prerequisite: Graduate standing. May be repeated for degree credit.

**ARTS 6033. Graduate Drawing Studio (Sp, Fa). 3 Hours.**

Intensive studio practice in drawing combined with reading, writing, and discussion of relevant contemporary issues in the fields of painting and drawing. Includes regular critiques, both with the group and in individual consultations with the instructor. Prerequisite: Admission to MFA program in Studio Art. May be repeated for up to 18 hours of degree credit.

**ARTS 612V. Graduate Painting (Sp, Su, Fa). 1-6 Hour.**

Individual problems in painting techniques. Prerequisite: Graduate standing. May be repeated for degree credit.

**ARTS 6133. Graduate Painting Studio (Sp, Fa). 3 Hours.**

Intensive studio practice in painting combined with reading, writing, and discussion of relevant contemporary issues in the fields of painting and drawing. Includes regular critiques, both with the group and in individual consultations with the instructor. Prerequisite: Admission to MFA program in Studio Art. May be repeated for up to 18 hours of degree credit.

**ARTS 622V. Graduate Sculpture (Sp, Fa). 1-6 Hour.**

Individual problems in sculpture techniques. Prerequisite: Graduate standing. May be repeated for degree credit.

**ARTS 6233. Graduate Sculpture Studio (Sp, Fa). 3 Hours.**

Intensive studio practice in sculpture combined with reading, writing, and discussion of relevant contemporary issues in the field of sculpture and new media. Includes regular critiques, both with the group and in individual consultations with the instructor. Prerequisite: Admission to MFA program in Studio Art. May be repeated for up to 18 hours of degree credit.

**ARTS 632V. Graduate Design (Sp, Fa). 1-6 Hour.**

Individual problems in two and three dimensional design. Prerequisite: Graduate standing. May be repeated for degree credit.

**ARTS 6333. Graduate Graphic Design Studio (Irregular). 3 Hours.**

Research-based studio which introduces students to design methods, focusing on an audience-centric process. This exploratory study will provide both artists and designers a broader perspective into creating work that strongly resonates with audiences. Through reading, writing, discussion, critique, and research, students will examine and question contemporary discourse. May be repeated for up to 18 hours of degree credit.

**ARTS 642V. Graduate Printmaking (Sp, Su, Fa). 1-6 Hour.**

Individual problems in printmaking techniques. Prerequisite: Graduate standing. May be repeated for degree credit.

**ARTS 6433. Graduate Printmaking Studio (Sp, Su, Fa). 3 Hours.**

Intensive studio practice in printmaking combined with reading, writing, and discussion of relevant contemporary issues in the fields of printmaking. Includes regular critiques, both with the group and in individual consultations with the instructor. Prerequisite: Admission to MFA program in Studio Art. May be repeated for up to 18 hours of degree credit.

**ARTS 652V. Graduate Ceramics (Sp, Su, Fa). 1-6 Hour.**

Individual problems in ceramic techniques. Prerequisite: Graduate standing. May be repeated for degree credit.

**ARTS 6533. Graduate Ceramics Studio (Sp, Fa). 3 Hours.**

Discussion of contemporary ceramics issues in tandem with the development of a cohesive body of work. Students lead their own explorations, technically and conceptually, while working toward a professional standard of output. Includes regular critiques, with the class and individually with the instructor. Any ceramic processes may be used. Prerequisite: MFA Studio Art Graduate Standing. May be repeated for up to 18 hours of degree credit.

**ARTS 682V. Graduate Photography (Sp, Su, Fa). 1-6 Hour.**

Individual problems in photography. Prerequisite: Graduate standing. May be repeated for degree credit.

**ARTS 6833. Graduate Photography Studio (Sp, Fa). 3 Hours.**

Intensive studio practice with reading and discussion of contemporary issues in photography for MFA students. Prerequisite: Admission to MFA program in Art. May be repeated for up to 18 hours of degree credit.

**ARTS 695V. Special Topics (Irregular). 1-6 Hour.**

Subject matter not covered in other courses. Prerequisite: Graduate standing. May be repeated for up to 12 hours of degree credit.

## Art Education (ARED)

### Courses

**ARED 3613. Public School Art I (Irregular). 3 Hours.**

Selection, preparation and use of instructional materials in elementary and secondary schools. For students seeking teaching certification in art. Prerequisite: ARTS 1013 and ARTS 1313 and ARTS 1323 and ARTS 2013.

**ARED 3643. Teaching Art in Elementary Schools (Fa). 3 Hours.**

Methods and materials used in teaching elementary school art. Prerequisite: ARED 3613.

**ARED 3643H. Honors Teaching Art in Elementary Schools (Fa). 3 Hours.**

Methods and materials used in teaching elementary school art. Prerequisite: ARED 3613.

This course is equivalent to ARED 3643.

**ARED 3653. Teaching Art in Secondary Schools (Sp). 3 Hours.**

Methods and materials used in teaching secondary school art. Prerequisite: ARED 3603 or ARED 3613.

**ARED 3653H. Honors Teaching Art in Secondary Schools (Sp). 3 Hours.**

Methods and materials used in teaching secondary school art. Prerequisite: ARED 3603 or ARED 3613.

This course is equivalent to ARED 3653.

**ARED 4633. Individual Research in Art Education (Sp, Fa). 3 Hours.**

Independent study in specific areas of art education. Prerequisite: 6 hours of art education.

**ARED 476V. Student Teaching in Art (Sp, Fa). 6-12 Hour.**

A minimum of 6 weeks will be spent in an off-campus school. During this time the student teacher will have an opportunity under supervision to observe, to teach and participate in other activities involving the school and community. Successful completion of a criminal background check required before student can begin student teaching. Prerequisite: ARTBFA major.

**ARED 490VH. Honors Thesis in Art Education (Sp, Fa). 1-6 Hour.**

Special problems in Art Education. Prerequisite: Junior standing. May be repeated for up to 12 hours of degree credit.

**ARED 4953. Special Topics in Art Education (Irregular). 3 Hours.**

Art education topics not included in regularly offered courses. Pre- or Corequisite: ARED 3613. May be repeated for up to 6 hours of degree credit.

**ARED 4953H. Honors Special Topics in Art Education (Irregular). 3 Hours.**

Art education topics not included in regularly offered courses. Pre- or Corequisite: ARED 3613. May be repeated for up to 6 hours of degree credit. This course is equivalent to ARED 4953.

**ARED 695V. Special Topics in Art Education (Irregular). 1-6 Hour.**

Subject matter not covered in regularly offered courses, and relating to art education. May be repeated for different topics. May be repeated for up to 12 hours of degree credit.

## Art History (ARHS)

### Courses

**ARHS 1003. Basic Course in the Arts: Art Lecture (ACTS Equivalency = ARTA 1003) (Sp, Su, Fa). 3 Hours.**

A general introduction to the visual arts. Lectures on theory and criticism, demonstrations, films, and slides. Three hours a week plus attendance at specified programs and exhibits. May not be presented toward satisfaction of the B.A. fine arts requirement by art majors.

This course is equivalent to ARTS 1003.

**ARHS 1003H. Honors Basic Course in the Arts: Art Lecture (Irregular). 3 Hours.**

A general introduction to the visual arts. Lectures on theory and criticism, demonstrations, films, slides. Three hours a week plus attendance at specified programs and exhibits. May not be presented toward satisfaction of the B.A. fine arts requirement by art majors.

This course is equivalent to ARTS 1003.

**ARHS 2913. Art History Survey I (ACTS Equivalency = ARTA 2003) (Sp, Fa). 3 Hours.**

Survey of art works from Stone Age through Medieval. Completion of ARHS 2913 and ARHS 2923 satisfies the content covered in ARHS 1003 for fulfillment of the fine arts university/state core.

**ARHS 2923. Art History Survey II (ACTS Equivalency = ARTA 2103) (Sp, Fa). 3 Hours.**

Survey of art works from Renaissance to the present. Completion of ARHS 2913 and ARHS 2923 satisfies the content covered in ARHS 1003 for fulfillment of the fine arts university/state core.

**ARHS 3923H. Honors Colloquium (Irregular). 3 Hours.**

Covers a special topic or issue. Offered as a part of the honors program. Prerequisite: honors candidacy (not restricted to candidacy in art).

**ARHS 451V. Internship in Art History (Irregular). 1-3 Hour.**

Credit for practical experience gained through an internship in art history. Report required from intern and field supervisor on significant accomplishments and/or progress. Prerequisite: 9 hours of ARHS courses. May be repeated for up to 6 hours of degree credit.

**ARHS 4563. Pre-Columbian Art (Irregular). 3 Hours.**

An introduction to pre-Columbian art from Mexico (3000 BC- 1521 AD) through a survey of works of art from different media: sculpture, architecture, and mural painting. Topics examined include: sacred images, political uses of sculpture, architecture and cosmogony, as well as the relationship between the material and content.



**ARHS 4563H. Honors Pre-Columbian Art (Irregular). 3 Hours.**

An introduction to pre-Columbian art from Mexico (3000 BC- 1521 AD) through a survey of works of art from different media: sculpture, architecture, and mural painting. Topics examined include: sacred images, political uses of sculpture, architecture and cosmogony, as well as the relationship between the material and content.

This course is equivalent to ARHS 4563.

**ARHS 4573. Artists of New Spain (Irregular). 3 Hours.**

An overview of colonial art in colonial New Spain. Focused on native agency, social function of art, and cross-cultural communication. Topics include indigenous materials and techniques, the use of images in legal contexts, and ritual liturgy. Some consideration will be given to artworks from the viceroyalty of Peru.

**ARHS 4573H. Honors Artists of New Spain (Irregular). 3 Hours.**

An overview of colonial art in colonial New Spain. Focused on native agency, social function of art, and cross-cultural communication. Topics include indigenous materials and techniques, the use of images in legal contexts, and ritual liturgy. Some consideration will be given to artworks from the viceroyalty of Peru. This course is equivalent to ARHS 4573.

**ARHS 4733. Saint Peter's and the Vatican (Irregular). 3 Hours.**

Examines art and the architectural history of St. Peter's Basilica in Rome from antiquity to present. Emphasis on the Renaissance/Baroque church and its early Christian predecessor. Students consider the impact of devotional practices and papal politics on the church, the Vatican Palace, and its renown artworks including the Sistine ceiling. Prerequisite: ARHS 2913 and ARHS 2923. This course is cross-listed with ARCH 4863.

**ARHS 4733H. Honors Saint Peter's and the Vatican (Irregular). 3 Hours.**

Examines art and the architectural history of St. Peter's Basilica in Rome from antiquity to present. Emphasis on the Renaissance/Baroque church and its early Christian predecessor. Students consider the impact of devotional practices and papal politics on the church, the Vatican Palace, and its renown artworks including the Sistine ceiling. Prerequisite: ARHS 2913 and ARHS 2923 and honors standing. This course is cross-listed with ARCH 4863, ARHS 4733.

**ARHS 4743. Medieval Architecture (Irregular). 3 Hours.**

Traces the history of architecture in Western Europe from c. 300 - 1400. Focus is predominantly, though not exclusively, on the history of Christian architecture. Major architectural sites studied include: the early Christian basilicas in Rome, the towered churches of Carolingian emperors, Romanesque monasteries, and Gothic cathedrals. Prerequisite: ARHS 2913 or ARCH 4433. This course is cross-listed with ARCH 4843.

**ARHS 4743H. Honors Medieval Architecture (Irregular). 3 Hours.**

Traces the history of architecture in Western Europe from c. 300 - 1400. Focus is predominantly, though not exclusively, on the history of Christian architecture. Major architectural sites studied include: the early Christian basilicas in Rome, the towered churches of Carolingian emperors, Romanesque monasteries, and Gothic cathedrals. Prerequisite: ARHS 2913 or ARCH 4433. This course is cross-listed with ARHS 4743, ARCH 4843.

**ARHS 4753. Renaissance and Baroque Architecture (Irregular). 3 Hours.**

Study of Renaissance and Baroque architecture in Europe and the New World from 1400 to 1700. With reference to an array of texts, drawings, and edifices, this course charts the evolution of a commanding Western architectural tradition with close attention to social, humanistic, and religious contexts. Prerequisite: ARHS 2923 or ARCH 4433.

This course is cross-listed with ARCH 4853.

**ARHS 4753H. Honors Renaissance and Baroque Architecture (Irregular). 3 Hours.**

Study of Renaissance and Baroque architecture in Europe and the New World from 1400 to 1700. With reference to an array of texts, drawings, and edifices, this course charts the evolution of a commanding Western architectural tradition with close attention to social, humanistic, and religious contexts. Prerequisite: ARHS 2923 or ARCH 4433.

This course is cross-listed with ARHS 4753, ARCH 4853.

**ARHS 4763. Seminar in Critical Theory (Sp). 3 Hours.**

Study of critical theory as it relates to problems in modern and contemporary art. Prerequisite: Nine credit hours of ARHS coursework.

**ARHS 4763H. Honors Seminar in Critical Theory (Sp). 3 Hours.**

Study of critical theory as it relates to problems in modern and contemporary art. Prerequisite: Nine credit hours of ARHS coursework. This course is equivalent to ARHS 4763.

**ARHS 4773. History of New Media Art (Irregular). 3 Hours.**

Examines the history of "new media" art in relation to larger shifts in technology, philosophy and politics. Beginning in the 19th century, the course explores the development of photography, film, video, performance, sound and digital art through the 20th century. Culminates with an examination of contemporary practice. Prerequisite: ARHS 2923 and 3 hours of 3000 level and above art history coursework.

**ARHS 4773H. Honors History of New Media Art (Irregular). 3 Hours.**

Examines the history of "new media" art in relation to larger shifts in technology, philosophy and politics. Beginning in the 19th century, the course explores the development of photography, film, video, performance, sound and digital art through the 20th century. Culminates with an examination of contemporary practice. Prerequisite: ARHS 2923, honors standing and 3 hours of 3000 level and above art history coursework.

**ARHS 4813. The History of Photography (Irregular). 3 Hours.**

Survey of photography from 1685 to present.

**ARHS 4823. History of Graphic Design (Irregular). 3 Hours.**

Survey of graphic design history from 1850 to the present. Prerequisite: ARHS 2923.

**ARHS 4833. Ancient Art (Irregular). 3 Hours.**

Study of selections from the visual arts of Mesopotamia, Egypt, Greece, or Rome. Prerequisite: ARHS 2913.

**ARHS 4833H. Honors Ancient Art (Irregular). 3 Hours.**

Study of selections from the visual arts of Mesopotamia, Egypt, Greece, or Rome. Prerequisite: ARHS 2913. This course is equivalent to ARHS 4833.

**ARHS 4843. Medieval Art (Irregular). 3 Hours.**

Study of Early Christian, Byzantine, Early Medieval, Romanesque, and Gothic styles. Prerequisite: ARHS 2913.

**ARHS 4843H. Honors Medieval Art (Irregular). 3 Hours.**

Study of Early Christian, Byzantine, Early Medieval, Romanesque, and Gothic styles. Prerequisite: ARHS 2913. This course is equivalent to ARHS 4843.

**ARHS 4853. Italian Renaissance Art (Irregular). 3 Hours.**

Study of Proto-Renaissance, Early, High Renaissance, and Mannerist styles in Italy. Prerequisite: ARHS 2923.

**ARHS 4853H. Honors Italian Renaissance Art (Irregular). 3 Hours.**

Study of Proto-Renaissance, Early, High Renaissance, and Mannerist styles in Italy. Prerequisite: ARHS 2923. This course is equivalent to ARHS 4853.

**ARHS 4863. Northern Renaissance Art (Irregular). 3 Hours.**

Study of Late Gothic and Renaissance styles in the Netherlands, Germany, and France. Prerequisite: ARHS 2923.

**ARHS 4863H. Honors Northern Renaissance Art (Irregular). 3 Hours.**

Study of Late Gothic and Renaissance styles in the Netherlands, Germany, and France. Prerequisite: ARHS 2923.

This course is equivalent to ARHS 4863.

**ARHS 4873. Baroque Art (Irregular). 3 Hours.**

Study of art styles of the 17th century, primarily in Italy, Spain, France, Flanders, and the Netherlands. Prerequisite: ARHS 2923.

**ARHS 4873H. Honors Baroque Art (Irregular). 3 Hours.**

Study of art styles of the 17th century, primarily in Italy, Spain, France, Flanders, and the Netherlands. Prerequisite: ARHS 2923.

This course is equivalent to ARHS 4873.

**ARHS 4883. 18th and 19th Century European Art (Irregular). 3 Hours.**

Study of eighteenth- and nineteenth-century art and architecture in Europe. Prerequisite: ARHS 2923.

**ARHS 4883H. Honors 18th and 19th Century European Art (Irregular). 3 Hours.**

Study of eighteenth and nineteenth century art and architecture in Europe. Prerequisite: ARHS 2923.

This course is equivalent to ARHS 4883.

**ARHS 4893. 20th Century European Art (Irregular). 3 Hours.**

Study of the major styles and movements of the century, including Cubism, Fauvism, German Expressionism, and Surrealism. Prerequisite: ARHS 2923.

**ARHS 4893H. Honors 20th Century European Art (Irregular). 3 Hours.**

Study of the major styles and movements of the century, including Cubism, Fauvism, German Expressionism, and Surrealism. Prerequisite: ARHS 2923.

This course is equivalent to ARHS 4893.

**ARHS 490VH. Honors Thesis in Art History (Sp, Su, Fa). 1-6 Hour.**

Special problems in art history. Prerequisite: Junior standing. May be repeated for up to 12 hours of degree credit.

**ARHS 4913. American Art to 1860 (Irregular). 3 Hours.**

The visual arts in the United States from Colonial times through 1860. Prerequisite: ARHS 2923.

**ARHS 4913H. Honors American Art to 1860 (Irregular). 3 Hours.**

The visual arts in the United States from Colonial times through 1860. Prerequisite: ARHS 2923.

This course is equivalent to ARHS 4913.

**ARHS 4923. American Art 1860-1960 (Irregular). 3 Hours.**

The visual arts in the United States from the onset of the American Civil War through the Cold War Era. Prerequisite: ARHS 2923.

**ARHS 4923H. Honors American Art 1860 - 1960 (Irregular). 3 Hours.**

The visual arts in the United States from the onset of the American Civil War through the Cold War Era. Prerequisite: ARHS 2923.

This course is equivalent to ARHS 4923.

**ARHS 4933. Contemporary Art (Fa). 3 Hours.**

Study of styles and major trends in the visual arts since 1960. Prerequisite: ARHS 2923.

**ARHS 4933H. Honors Contemporary Art (Fa). 3 Hours.**

Study of styles and major trends in the visual arts since 1960. Prerequisite: ARHS 2923 and ARHS 4923.

This course is equivalent to ARHS 4933.

**ARHS 4943. Seminar in Art Criticism (Fa). 3 Hours.**

Study and problems in the criticism of art forms and styles. Prerequisite: 9 hours of art history.

**ARHS 4943H. Honors Seminar in Art Criticism (Fa). 3 Hours.**

Study and problems in the criticism of art forms and styles. Prerequisite: 9 hours of art history.

This course is equivalent to ARHS 4943.

**ARHS 4953. Art Museum Studies (Irregular). 3 Hours.**

A survey of the history and function of the art museum and an introduction to museum work. Investigation of collections and collections management, conservation, exhibitions, education and public programs, museum management, and contemporary issues which effect the museum profession. Prerequisite: ARHS 2913 and ARHS 2923, or graduate Art MFA standing.

**ARHS 4963. Individual Research in Art History (Sp, Fa). 3 Hours.**

Independent study in specific areas of art history and criticism. Prerequisite: 12 hours of Art History and permission of instructor.

**ARHS 4963H. Honors Individual Research in Art History (Sp, Su, Fa). 3 Hours.**

Independent study in specific areas of art history and criticism. Prerequisite: 12 hours of Art History and permission of instructor.

This course is equivalent to ARHS 4963.

**ARHS 4973. Seminar in Art History (Irregular). 3 Hours.**

Special studies of periods and styles of art. Prerequisite: 9 hours of Art History. May be repeated for up to 6 hours of degree credit.

**ARHS 4983. Special Topics in Art History (Irregular). 3 Hours.**

Subject matter not covered in regularly offered courses, and relating to the history of art before the nineteenth century. May be repeated for different topics. Prerequisite: ARHS 2913 or ARHS 2923. May be repeated for up to 9 hours of degree credit.

**ARHS 4983H. Honors Special Topics in Art History (Irregular). 3 Hours.**

Subject matter not covered in regularly offered courses, and relating to the history of art before the nineteenth century. May be repeated for different topics. Prerequisite: ARHS 2913 or ARHS 2923. May be repeated for up to 9 hours of degree credit.

This course is equivalent to ARHS 4983.

**ARHS 4993. Special Topics in Modern Art (Irregular). 3 Hours.**

Subject matter not covered in regularly offered courses, and relating to the history of art from the nineteenth century to the present. May be repeated for different topics. Prerequisite: ARHS 2923. May be repeated for up to 9 hours of degree credit.

**ARHS 6933. Graduate Research In Art History (Irregular). 3 Hours.**

Independent study in specific areas of art history and criticism.

**ARHS 6943. Seminar: Critical Thought in Art (Fa). 3 Hours.**

Explore topics of concern to the studio artist involving underlying concepts and purposes of art as well as models and methods for the analysis of art. Course based on discussions of selected readings, prepared papers and seminar reports. Prerequisite: graduate standing. May be repeated for up to 3 hours of degree credit.

## Arts and Sciences (ARSC) Courses

**ARSC 1001. Fulbright Perspectives (Fa). 1 Hour.**

Open to incoming freshmen and transfer students participating in the university's First Year Experience. Available for credit only. Prerequisite: New freshman or freshman transfer student and a ARSC college major.

**ARSC 1201. Inquiry Approaches to Teaching: UAteach Step I (Sp, Fa). 1 Hour.**

For students exploring teaching as a career. Following an introduction to the theory and practice behind inquiry-based science and mathematics instruction, students teach lessons in elementary classrooms to obtain firsthand experience in planning and implementation.

This course is cross-listed with EDHP 1201.

**ARSC 1221. Inquiry-Based Lesson Design: UAteach Step II (Sp, Fa). 1 Hour.**

For students exploring teaching as a career. Following an introduction to the theory and practice behind inquiry-based science and mathematics instruction, students teach lessons in elementary classrooms to obtain firsthand experience in planning and implementation. Prerequisite: ARSC 1201 or EDHP 1201.

**ARSC 1600. Undergraduate Research Assistant (Sp, Su, Fa). 0 Hours.**

Undergraduate research.

**ARSC 2303. Perspectives on Science and Mathematics (Sp). 3 Hours.**

A course for prospective science and mathematics teachers exploring topics and episodes in the history and philosophy of science and mathematics, including whether mathematics is itself a science. Sciences include biology, physics, geology, astronomy, and chemistry. The course traces development of key ideas and seeks to correct common myths. Prerequisite: ARSC 1201 and ARSC 1221.

**ARSC 2600. Undergraduate Research Assistant (Sp, Su, Fa). 0 Hours.**

Undergraduate research.

**ARSC 310V. Cooperative Education (Sp, Su, Fa). 1-4 Hour.**

Required of participants in cooperative education work assignments. Available for credit only. May be repeated for up to 4 hours of degree credit.

**ARSC 3600. Undergraduate Research Assistant (Sp, Su, Fa). 0 Hours.**

Undergraduate research.

**ARSC 4600. Undergraduate Research Assistant (Sp, Su, Fa). 0 Hours.**

Undergraduate research.

## Asian Studies (AIST)

### Courses

**AIST 4003. Asian Studies Colloquium (Fa). 3 Hours.**

An interdepartmental colloquium with an annual change of subject, required of students in the Asian studies program. Prerequisite: Sophomore standing. May be repeated for up to 6 hours of degree credit.

**AIST 4003H. Honors Asian Studies Colloquium (Fa). 3 Hours.**

An interdepartmental colloquium with an annual change of subject, required of students in the Asian studies program. Prerequisite: sophomore standing. May be repeated for up to 6 hours of degree credit.

This course is equivalent to AIST 4003.

## Astronomy (ASTR)

### Courses

**ASTR 2001L. Survey of the Universe Laboratory (ACTS Equivalency = PHSC 1204 Lab) (Sp, Su, Fa). 1 Hour.**

Daytime and nighttime observing with telescopes and indoor exercises on selected topics. Pre- or Corequisite: ASTR 2003.

**ASTR 2001M. Honors Survey of the Universe Laboratory (Fa). 1 Hour.**

An introduction to the content and fundamental properties of the cosmos. Topics include planets and other objects of the solar system, the sun, normal stars and interstellar medium, birth and death of stars, neutron stars, and black holes. Pre- or Corequisite: ASTR 2003 or ASTR 2003H.

This course is equivalent to ASTR 2001L.

**ASTR 2003. Survey of the Universe (ACTS Equivalency = PHSC 1204 Lecture) (Sp, Su, Fa). 3 Hours.**

An introduction to the content and fundamental properties of the cosmos. Topics include planets and other objects of the solar system, the Sun, normal stars and interstellar medium, birth and death of stars, neutron stars, pulsars, black holes, the Galaxy, clusters of galaxies, and cosmology. Corequisite: ASTR 2001L or ASTR 2001M.

**ASTR 2003H. Honors Survey of the Universe (Fa). 3 Hours.**

An introduction to the content and fundamental properties of the cosmos. Topics include planets and other objects of the solar system, the Sun, normal stars and interstellar medium, birth and death of stars, neutron stars, pulsars, black holes, the Galaxy, clusters of galaxies, and cosmology. Corequisite: ASTR 2001M. This course is equivalent to ASTR 2003.

**ASTR 301V. Observational Astronomy (Irregular). 1-3 Hour.**

Individual experimental or observational problems studied with small telescopes, cameras, and other basic equipment. No credit is given toward a B.S. degree in physics. Prerequisite: ASTR 2003.

**ASTR 4033. Astrophysics I: Stars and Planetary Systems (Odd years, Fa). 3 Hours.**

An introduction to astrophysics covering stellar structure and evolution, the properties of the solar system, and extrasolar planetary systems. Prerequisite: PHYS 3613 or CHEM 3504.

**ASTR 4043. Astrophysics II: Galaxies and the Large-Scale Universe (Even years, Sp). 3 Hours.**

An introduction to astrophysics covering the interstellar medium, the Milky Way galaxy, extragalactic astronomy, and introduction to cosmology. Prerequisite: ASTR 4033.

**ASTR 4073. Cosmology (Odd years, Sp). 3 Hours.**

An introduction to modern Big Bang cosmology. The course covers the origin, evolution, and structure of the Universe, based on the Theory of Relativity. Prerequisite: PHYS 3613 or CHEM 3504.

**ASTR 5033. Astrophysics I: Stars and Planetary Systems (Odd years, Fa). 3 Hours.**

An introduction to astrophysics covering stellar structure and evolution, the properties of the solar system, and extrasolar planetary systems.

**ASTR 5043. Astrophysics II: Galaxies and the Large-Scale Universe (Even years, Sp). 3 Hours.**

An introduction to astrophysics covering the interstellar medium, the Milky Way galaxy, extragalactic astronomy, and introduction to cosmology. Prerequisite: ASTR 5033.

## Athletic Training (ATTR)

### Courses

**ATTR 5213. Athletic Training Clinical I - Application of Athletic Preventive Devices (Su). 3 Hours.**

This course will serve as an introduction to the athletic training clinical program. Procedures and policies of the clinical program and application of athletic preventive devices will be included as well. Prerequisite: Admission to the graduate program in athletic training.

**ATTR 5223. Athletic Training Clinical II - Emergency Procedures (Su). 3 Hours.**

This course will serve as a process for monitoring student's progression of athletic training competencies, acquire clinical hours under the direct supervision of a certified athletic trainer, and reinforce and instruct new emergency procedures. Prerequisite: ATTR 5213.

**ATTR 5232. Athletic Training Clinical III - Lower Extremity Evaluation (Fa). 2 Hours.**

This course will serve as a process for monitoring student's progression of athletic training proficiencies, acquire clinical hours under the direct supervision of a certified athletic trainer, and reinforce the evaluation skills of gait, lower extremity, and spine/pelvis. Prerequisite: ATTR 5223.

**ATTR 5242. Athletic Training Clinical IV - Evaluation of Upper Extremity (Sp). 2 Hours.**

This course will serve as a process for monitoring student's progression of athletic training competencies, acquire clinical hours under the direct supervision of a certified athletic trainer, and reinforce the evaluation skills of the upper extremities, head, neck, and posture. Prerequisite: ATTR 5232.

**ATTR 5262. Athletic Training Clinical V - Rehabilitation Lab (Fa). 2 Hours.**

This course will serve as a process for monitoring student's progression of athletic training competencies, acquire clinical hours under the direct supervision of a certified athletic trainer, and reinforce techniques and applications of therapeutic exercise and rehabilitation.

**ATTR 5272. Athletic Training Clinical VI - Athletic Training Seminar (Sp). 2 Hours.**

This course will serve as a process for monitoring student's progression of athletic training competencies, acquire clinical hours under the direct supervision of a certified athletic trainer, and serve as a capstone course validating the athletic training clinical proficiencies and prepare students for the NATABOC certification exam and future employment. Prerequisite: ATTR 5262.

**ATTR 5363. Evaluation Techniques of Athletic Injuries - Upper Extremity (Sp). 3 Hours.**

Use of scientific assessment methods to recognize and evaluate the nature and severity of athletic injuries to the upper extremities, trunk, and head. Prerequisite: Admission to graduate athletic training program.

**ATTR 5373. Evaluation Techniques of Athletic Injuries - Lower Extremity (Fa). 3 Hours.**

Use of scientific assessment methods to recognize and evaluate the nature and severity of athletic injuries to the hip and lower extremities. Prerequisite: Admission to graduate athletic training program.

**ATTR 5453. Therapeutic Modalities in Athletic Training (Fa). 3 Hours.**

Contemporary therapeutic modalities used in managing athletic injuries. Modalities covered are classified as thermal agents, electrical agents, or mechanical agents. Emphasis is placed on their physiological effects, therapeutic indications (and contraindications), and clinical application. Prerequisite: Admission to graduate athletic training program.

**ATTR 5463. Therapeutic Exercise and Rehabilitation of Athletic Injuries (Fa). 3 Hours.**

A systematic approach to exercise program development, techniques, indications and contraindications of exercise, and progression as related to athletic injury, prevention, and return to play guidelines. Prerequisite: Admission to graduate athletic training program.

**ATTR 5473. Administration in Athletic Training (Su). 3 Hours.**

Administrative components of athletic training. Basic concepts of legal liability, leadership and management principles, financial management, day to day scheduling and supervision, maintenance, and general administration. Prerequisite: Admission to graduate athletic training program.

**ATTR 5483. Medical Conditions in Athletic Training (Fa). 3 Hours.**

This course will provide a collection of knowledge, skills, and values that the entry-level certified athletic trainer must possess to recognize, treat, and refer, when appropriate, the general medical conditions and disabilities of athletes and others involved in physical activity. Prerequisite: Admission to the graduate athletic training program or permission of instructor.

**ATTR 5493. Evidence-Based Practice in Athletic Training (Su). 3 Hours.**

In-depth analysis of current literature, research, case studies, and musculoskeletal evaluation and rehabilitation directed toward musculoskeletal injuries of the physically active. Prerequisite: Admission into the Athletic Training Education Program.

## Biological Engineering (BENG) Courses

**BENG 2632. Biological Engineering Design Studio (Fa). 2 Hours.**

Application of the engineering design process to projects involving living systems. Projects are team-based open-ended design with hands-on construction and testing of design prototypes. Emphasis is placed on understanding, quantifying and controlling complex interacting living systems involving humans, animals, plants and microbes with the goal of creating economically and ecologically sustainable systems. 4 hours of design studio per week. Pre- or Corequisite: PHYS 2054 and BIOL 1543 and BIOL 1541L, and (GNEG 1111 or GNEG 1103).

**BENG 2643. Biological Engineering Methods I (Sp). 3 Hours.**

Introduction to software techniques for the graphical and geo-spatial representation of processes, structures, devices, landscapes and watersheds in biological engineering. Process layout and process flow diagrams. Two-dimensional and three-dimensional scale drawings and models. Elements of engineering drawings and plans. Mapping and introduction to geographic information systems. Surface topography, digital elevation modeling, spatial land use, soils and other GIS data sources. Stream networks, watershed delineation, grade planning and introductory runoff modeling. Introductory land surveying. Geo-referencing and integrating designed hydrologic structures with GIS-based site maps. Communicating complex designed systems. Two hours of lecture plus one 3-hour lab per week. Corequisite: Lab component. Prerequisite: PHYS 2054.

**BENG 3113. Measurement and Control for Biological Systems (Sp). 3 Hours.**

Principles of sensors, instruments, measurements, controls, and data acquisition systems, with emphasis on applications for biological systems; including basic circuit analysis, sensor calibration and hardware selection. Basic process monitoring and control methods, including hardware and software. Lecture 2 hours, laboratory 3 hours per week. Corequisite: Lab component. Prerequisite: PHYS 2074.

**BENG 3113H. Honors Measurement and Control for Biological Systems (Sp). 3 Hours.**

Principles of sensors, instruments, measurements, controls, and data acquisition systems, with emphasis on applications for biological systems; including basic circuit analysis, sensor calibration and hardware selection. Basic process monitoring and control methods, including hardware and software. Lecture 2 hours, laboratory 3 hours per week. Corequisite: Lab component. Prerequisite: PHYS 2074 and honors candidacy.

This course is equivalent to BENG 3113.

**BENG 3603. Metrics for Sustainable Agricultural Systems (Fa). 3 Hours.**

Analysis of productive agricultural systems necessary to meet expanding demand worldwide for food, feed, fiber and fuel while preserving critical ecosystem services to avoid future catastrophic failures of the biosphere. Characterization of sustainable systems using well-defined metrics, indicators and indices, including reference to sustainability certifications. Metrics for soil, water, atmosphere and biodiversity. Applications in crop and animal production with scales from field to watershed to eco-region. Examining the process and methodologies of integrating metrics into indices to support sustainable supply chain decisions. Discussion of life cycle analyses and current initiatives toward approaching agricultural systems sustainability. Technical course intended for students in agriculture, biology, business, engineering, and environmental sciences.

This course is cross-listed with CSES 3603.

**BENG 3653. Global Bio-Energy Engineering (Fa). 3 Hours.**

Global energy sources with a focus on renewable energy, solar and biomass derived fuels. Biomass energy production from crops and organic residues or waste products. Conversion of biomass to usable fuels. Utilization of renewable energy in society. Includes detailed systems analyses to examine inputs, efficiencies, usable outputs and by-products. Systems design to select and integrate components which meet client needs while maximizing sustainable global impacts. Three hours of lecture per week. Pre- or Corequisite: MEEG 2403 or CHEG 2313.

**BENG 3663. Biological Engineering Methods II (Fa). 3 Hours.**

Modeling biological processes to predict system behavior as part of the design process. Development and use of spreadsheets and script programming code to represent biological phenomena and processes. Introduction to experimental design as applied to biological processes, including data collection and analysis, and elementary statistics. Use of engineering economics to aid comparisons of alternatives. Analysis of engineering designs and management practices to best meet the needs of society and the client in areas of sustainable water, food and energy systems. Lecture 3 hours per week. Prerequisite: PHYS 2054 and MATH 2564.

**BENG 3723. Unit Operations in Biological Engineering (Sp). 3 Hours.**

Design of basic unit operations typical of biological engineering practice; unit operations include pump-pipe, fan-duct, moist air (psychrometric) processes (cool/heater/humidifier/dryer), air mixing, aeration, and refrigeration; unit operations design will account for unique constraints imposed by biological systems. Lecture 2 hours and lab 3 hours per week. Corequisite: Lab component. Prerequisite: (MEEG 2403 or CHEG 2313) and (CVEG 3213 or CHEG 2133 or MEEG 3503).

**BENG 3733. Transport Phenomena in Biological Systems (Fa). 3 Hours.**

Basic principles governing transport of energy and mass. Estimating transfer of energy (heat) through solid bodies and liquid/gas boundary layers through conduction, convection, and radiation. Modeling the rates at which biological reactions occur (kinetics). Estimating the transfer of diffusing mass (gas or liquid) through solid bodies and liquid/gas boundary layers, including processes such as drying and oxygen diffusion. Three hours lecture per week. Pre- or Corequisite: (CVEG 3213 or MEEG 3503 or CHEG 2133.) Prerequisite: (MEEG 2403 or CHEG 2313) and MATH 2584.

**BENG 4123. Biosensors & Bioinstrumentation (Odd years, Sp). 3 Hours.**

Principles of biologically based sensing elements and interfacing techniques. Design and analysis methods of biosensing and transducing components in bioinstrumentation. Applications of biosensors and bioinstrumentation in bioprocessing, bioenvironmental, biomechanical and biomedical engineering. Lecture 2 hours, laboratory 3 hours per week. Corequisite: Lab component. Prerequisite: BIOL 2013 or BIOL 2533 and BENG 3113.

**BENG 450V. Special Problems (Sp, Su, Fa). 1-4 Hour.**

Selected problems in biological engineering are pursued in detail. Prerequisite: senior standing. May be repeated for up to 4 hours of degree credit.

**BENG 451VH. Honors Thesis (Sp, Su, Fa). 1-6 Hour.**

Honors thesis. Prerequisite: Honors candidacy.

**BENG 452V. Special Topics in Biological Engineering (Irregular). 1-6 Hour.**

Special topics in biological engineering not covered in other courses. Prerequisite: Engineering student. May be repeated for up to 8 hours of degree credit.

**BENG 4663. Sustainable Biosystems Designs (Sp). 3 Hours.**

Process and methodologies associated with measuring, assessing, and designing sustainable systems in water, energy and food. Quantitatively rigorous methodology for life cycle analysis (LCA) for inventory, assessment and impact analyses. Use of other systems analyses and process control theory to evaluate and design sustainable systems. Application of the methods to a project to gain experience in defining, quantifying and utilizing sustainable metrics. Three hours of lecture per week. Prerequisite: BENG 3653.

**BENG 4703. Biotechnology Engineering (Fa). 3 Hours.**

Introduction to biotechnology topics ranging from principles of microbial growth, mass balances, bioprocess engineering as well as emerging principles in the design of biologically based microbial and enzymatic production systems. Application areas such as biofuels, and fine and bulk chemical production. Lecture 2 hours, laboratory 3 hours per week. Prerequisite: BENG 2632. Corequisite: Lab component.

**BENG 4743. Food and Bio-Product Systems Engineering (Fa). 3 Hours.**

Sustainable bio-product engineering through biosystem design, analysis, modeling, control, and optimization. Life cycle phases for bio-products (food, fiber, feed, and fuel). System analysis of inputs and outputs of energy, water and mass for the purpose of producing and processing biomass for human uses. Advanced bioprocess design topics to utilize enzymes, cells, tissues and organisms to create bio-products and methods for deactivating biological agents to preserve the quality and safety of food and other bio-products. Three hours lecture per week. Prerequisite: BENG 3723 and BENG 3733.

**BENG 4753L. Nanotechnology Laboratory (Fa). 3 Hours.**

Provides students with hands-on experience in several major areas of nanotechnology, including nanoscale imaging, synthesis of nanomaterials, nanostructure assembly and manipulation, device and system integration, and performance evaluation. Students can earn credit for only one of the following courses: MEEG 4323L, BENG 4753L, BMEG 4103L, CHEM 4153L, PHYS 4793L. Corequisite: Drill component, junior standing and instructor consent. Prerequisite: MATH 2564, PHYS 2074, CHEM 1123 or CHEM 1133. This course is cross-listed with MEEG 4323L, CHEM 4153L, PHYS 4793L.

**BENG 4753M. Honors Nanotechnology Laboratory (Fa). 3 Hours.**

Provides students with hands-on experience in several major areas of nanotechnology, including nanoscale imaging, synthesis of nanomaterials, nanostructure assembly and manipulation, device and system integration, and performance evaluation. Students can earn credit for only one of the following courses: MEEG 4323L, BENG 4753L, BMEG 4103L, CHEM 4153L, PHYS 4793L. Corequisite: Drill component, junior standing and instructor consent. Prerequisite: MATH 2564, PHYS 2074, CHEM 1123 or CHEM 1133. This course is cross-listed with MEEG 4323L, CHEM 4153L, PHYS 4793L.

**BENG 4812. Senior Biological Engineering Design I (Fa). 2 Hours.**

Initiation of comprehensive two-semester team-design projects to design processes, devices and systems to meet needs of clients in sustainable water, food and energy. Practice in following the design process, including the definition of design objectives and constraints, establishing functions and performance criteria, generating alternatives and evaluating alternatives through analysis, modeling and prototype testing; exploring relevant design considerations including performance, efficiency, costs, environmental impacts, sustainability and stewardship, safety and ethics. Developing analytic capability; and practicing design optimization to find best alternative for the client. Lecture 1 hour, laboratory 3 hours per week. Prerequisite: Instructor consent. Corequisite: Lab component.

**BENG 4823. Senior Biological Engineering Design II (Sp). 3 Hours.**

Completion of comprehensive two-semester team-design projects to design processes, devices and systems to meet needs of clients in sustainable water, food and energy. Focus on building of prototypes or models, system optimization, evaluation and improvement. Final design details packaged to meet the needs of the client. Interaction with appropriate persons from other disciplines. Written and oral reporting. Communications with peers, supervisor, clients and the public. Lecture 1 hour per week, two 2-hour lab periods per week. Prerequisite: BENG 4812. Corequisite: Lab component.

**BENG 4831. Biological Engineering Professionalism (Fa). 1 Hour.**

Preparation to be job-ready, employable and successful in transition to a professional career and further study in Biological Engineering. Introduction to job and graduate study searches. Professional and ethical responsibilities; professional registration. Conflict, change and project management. Effective communications and interactions with supervisors, peers, clients, and stakeholders. Two hour discussion section per week. Prerequisite: Senior standing.

**BENG 4933. Sustainable Watershed Engineering (Fa). 3 Hours.**

Provides students with expertise in using advanced tools in watershed monitoring, assessment, and design. Builds on core competencies in hydrology and hydraulics to allow student to evaluate water used by sector in water management regions; evaluate and quantify water demands by sector with emphasis on irrigation; develop risk-based simulations of hydrologic processes, including precipitation, evapo-transportation, infiltration, runoff, and stream flow; quantify and simulate constituent loading to watersheds using GIS-based models, and understand the applications of these methods in water resource management policy. Three hours lecture per week. Prerequisite: CVEG 3223.

**BENG 500V. Advanced Topics in Biological Engineering (Irregular). 1-6 Hour.**

Special problems in fundamental and applied research. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

**BENG 5103. Advanced Instrumentation in Biological Engineering (Even years, Sp). 3 Hours.**

Applications of advanced instrumentation in biological systems. Emphasis on updated sensing and transducing technologies, data acquisition and analytical instruments. Lecture 2 hours, lab 3 hours per week. Corequisite: Lab component. Prerequisite: BENG 3113.

**BENG 5253. Bio-Mems (Irregular). 3 Hours.**

Topics include the fundamental principles of microfluidics, Navier-Stokes Equation, bio/abio interfacing technology, bio/abio hybrid integration of microfabrication technology, and various biomedical and biological problems that can be addressed with microfabrication technology and the engineering challenges associated with it. Lecture 3 hour per week. Prerequisite: MEEG 3503 or CVEG 3213 or CHEG 2133. This course is cross-listed with MEEG 5253.

**BENG 5303. Fundamentals of Biomass Conversion (Fa). 3 Hours.**

Web-based overview of the technology involved in the conversion of biomass to energy, including associated sustainability issues. Overview of biomass structure and chemical composition; biochemical and thermochemical conversion platforms; issues, such as energy crop production related to water consumption and soil conservation. Further topics include: biomass chemistry, logistics and resources; biological processes; and thermochemical processes. Two web-based lectures/meetings per week. Prerequisite: Graduate standing or instructor consent.

**BENG 5313. Fundamentals of Bioprocessing (Sp). 3 Hours.**

This course covers the fundamentals of mass and energy balances, fluid dynamics, heat and mass transfer, as applied to Bioprocessing. The microbial growth, kinetics and fermenter operation as applicable to Bioprocessing will be covered in this course. Industrial Bioprocessing case studies that involve the integration of the course contents will be discussed. This course is offered on-line in collaboration with the AG\*IDEA consortium of land grant universities. The principal instructor will be a non-UA faculty member at a participating university. Prerequisite: MATH 2554, CHEM 3813, and PHYS 2054.

**BENG 5323. Bioseparations (Even years, Sp). 3 Hours.**

Study of separations important in food and biochemical engineering such as leaching, extraction, expression, absorption, ion exchange, filtration, centrifugation, membrane separation, and chromatographic separations. This course is offered on-line in collaboration with the AG\*IDEA consortium of land grant universities. The principal instructor will be a non-UA faculty member at a participating university. Prerequisite: Instructor Consent.

**BENG 5333. Biochemical Engineering (Odd years, Sp). 3 Hours.**

The analysis and design of biochemical processing systems with emphasis on fermentation kinetics, continuous fermentations, aeration, agitation, scale up, sterilization, and control. This course is offered on-line in collaboration with the AG\*IDEA consortium of land grant universities. The principal instructor will be a non-UA faculty member at a participating university. Prerequisite: Instructor Consent Required.

**BENG 5343. Advanced Biomass Thermochemical Conversion (Odd years, Fa). 3 Hours.**

Advanced study, evaluation, and application of thermochemical conversion pathways in biofuel production. Specific topics include biomass gasification, pyrolysis, liquefaction, and heterogeneous catalysts. This course is offered on-line in collaboration with the AG\*IDEA consortium of land grant universities. The principal instructor will be a non-UA faculty member at a participating university. Prerequisite: Instructor Consent.

**BENG 5351. Sustainability Seminar (Su). 1 Hour.**

Topics in environmental sustainability, green engineering, life cycle analysis, sustainable development and sustainability science. This course is offered on-line in collaboration with the AG\*IDEA consortium of land grant universities. The principal instructor will be a non-UA faculty member at a participating university. Prerequisite: CHEM 1123.

**BENG 5613. Simulation Modeling of Biological Systems (Irregular). 3 Hours.**

Application of computer modeling and simulation of discrete-event and continuous-time systems to solve biological and agricultural engineering problems. Philosophy and ethics of representing complex processes in simplified form. Deterministic and stochastic modeling of complex systems, algorithm development, application limits, and simulation interpretation. Emphasis on calibration, validation and testing of biological systems models for the purposes of system optimization, resource allocation, real-time control and/or conceptual understanding. Prerequisite: ((AGST 4023 or AGST 5023 (formerly AGST 4023) or STAT 4003 or INEG 2313.

**BENG 5623. Life Cycle Assessment (Sp). 3 Hours.**

This course will examine the process and methodologies associated with life cycle analysis (LCA). The course will explore the quantitatively rigorous methodology for life cycle inventory (LCI), LCA and life cycle impact assessment (LCIA). This course is offered on-line. The principal instructor will be a UA faculty member.

**BENG 5633. Linkages Among Technology, Economics and Societal Values (Sp, Fa). 3 Hours.**

Addresses how macro-level change is influenced by the linkages among technology, economics and societal values. Three major course initiatives: 1) Developing a conceptual model for understanding how macro-level change has occurred over history; 2) Examining recorded history in order to develop a contextual appreciation for Society's current situation; and 3) Using statistical data to identify six overriding world trends that are likely to greatly impact society's goal of achieving sustainable prosperity and well-being in the foreseeable future. Prerequisite: Graduate standing or instructor permission.

This course is cross-listed with OMGT 5633.

**BENG 5703. Design and Analysis of Experiments for Engineering Research (Irregular). 3 Hours.**

Principles of planning and design of experiments for engineering research. Propagation of experimental error. Improving precision of experiments. Analysis of experimental data for optimal design and control of engineering systems using computer techniques. Students must have an introductory background in statistics. Lecture 2 hours, laboratory 3 hours per week. Corequisite: Lab component.

**BENG 5733. Advanced Biotechnology Engineering (Odd years, Fa). 3 Hours.**

Applications of the principles of bioprocess/biochemical engineering to microbiological and biomedical problems. Topics include applied enzymology, metabolic engineering, molecular genetics and control, and bioinformatics and nanobiotechnology in addition to classical applied enzyme and cell-growth kinetics and advanced bioreactor design. Prerequisite: BENG 3733 or BENG 4703 or BENG 5743 or equivalent.

**BENG 5743. Biotechnology Engineering (Fa). 3 Hours.**

Introduction to biotechnology topics ranging from principles of microbial growth, mass balances, bioprocess engineering as well as emerging principles in the design of biologically based microbial and enzymatic production systems. Application areas such as biofuels, and fine and bulk chemical production. Lecture 2 hours, laboratory 3 hours per week. Students may not earn credit for both BENG 5743 and BENG 4703. Prerequisite: Graduate standing. Corequisite: Lab component.

**BENG 5801. Graduate Seminar (Sp). 1 Hour.**

Reports presented by graduate students on topics dealing with current research in biological engineering. Prerequisite: Graduate standing.

**BENG 5923. Nonpoint Source Pollution Control and Modeling (Irregular). 3 Hours.**

Control of hydrologic, meteorologic, and land use factors on nonpoint source (NPS) pollution in urban and agricultural watersheds. Discussion of water quality models to develop NPS pollution control plans and total maximum daily loads (TMDLs), with consideration of model calibration, validation, and uncertainty analysis. Prerequisite: CVEG 3223.

**BENG 5933. Environmental and Ecological Risk Assessment (Sp). 3 Hours.**

Process and methodologies associated with human-environmental and ecological risk assessments. Environmental risk assessments based on human receptors as endpoints, addressing predominantly abiotic processes. Ecological risk assessments based on non-human receptors as endpoints. Approach using hazard definition, effects assessment, risk estimation, and risk management. Application of methods to student projects to gain experience in defining and quantifying uncertainty associated with human perturbation, management and restoration of environmental and ecological processes.

**BENG 5953. Ecological Engineering Design (Fa). 3 Hours.**

Design of low impact development techniques to enhance ecological services, reduce peak runoff, and capture sediments, nutrients and other pollutants resulting from urban development. Techniques may include: bio-swales, retention basins, filter strips. Design of sustainable ecological processes for the treatment and utilization of wastes/residues. Techniques may include: direct land application to soils/crops, composting systems, lagoons and constructed wetlands. Design goals include optimization of ecological services to maintain designated uses of land, water and air; including enhancement of habitat for wildlife and recreation, and the discovery of economically viable methods for co-existence of urban and agricultural land uses. Lecture 3 hours per week. Students may not earn credit for both BENG 5953 and BENG 4923.

**BENG 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Graduate standing required for enrollment. May be repeated for degree credit.

**BENG 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Candidacy is required for enrollment. May be repeated for degree credit.

## Biology (BIOL) Courses

**BIOL 1001L. Environmental Science Laboratory (Sp, Fa). 1 Hour.**

Laboratory, field trip, and discussion sessions covering the concepts and information allowing students to critically evaluate environmental issues. Topics will include: laboratory safety, recycling, composting, geographic information systems, soil testing, water quality, hazardous wastes, waste disposal, wetlands, wastewater treatment, and sustainable food systems. Laboratory 2 hours per week. Corequisite: BIOL 1003.

This course is cross-listed with ENSC 1001L.

**BIOL 1003. Environmental Science (Sp, Fa). 3 Hours.**

Series of lectures and discussions introducing the topic of environmental science including factors related to water, soil, and air quality. If taking course for University core Natural Science credit, BIOL 1001L is a corequisite. Corequisite: BIOL 1001L. This course is cross-listed with ENSC 1003.

**BIOL 1524. Biological Principles (Sp, Su, Fa). 4 Hours.**

Integrated lecture and laboratory focusing on the overriding principles of Biology. Designed to convey biological reasoning to non-science majors. May not count as prerequisite for advanced courses in BIOL. Corequisite: Lab component.

**BIOL 1541L. Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa). 1 Hour.**

Experimental and observational techniques used in biology with emphasis on the acquisition and interpretation of results that illustrate major biological principles. Corequisite: BIOL 1543.

**BIOL 1541M. Honors Principles of Biology Laboratory (Sp, Fa). 1 Hour.**

This course is designed for the well prepared student in the Honors program. It focuses on teaching students experimental and observational techniques used in the science of biology. It emphasizes the acquisition and interpretation of results that illustrate the major principles of biology. Corequisite: BIOL 1543H or BIOL 1543. This course is equivalent to BIOL 1541L.

**BIOL 1543. Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa). 3 Hours.**

Principles that unify biology with emphasis on scientific study that demonstrates how all organisms are the product of evolution and are parts of interacting systems from the molecular to the ecosystem level. Corequisite: BIOL 1541L.

**BIOL 1543H. Honors Principles of Biology (Sp, Fa). 3 Hours.**

This course is designed for the well prepared student in Honors program. It focuses on the principles that unify the science of biology. Students will be exposed to how scientific principles have been used to demonstrate that all organisms are the products of evolution and are parts of interacting systems from the molecular to the ecosystem level. Corequisite: BIOL 1541M or BIOL 1541L. This course is equivalent to BIOL 1543.

**BIOL 1584. Biology for Majors (Sp, Fa). 4 Hours.**

Integrated lecture and laboratory course designed to prepare Biology Majors to enter the rest of the Biology Core of Cell Biology, General Genetics, Evolutionary Biology, and General Ecology. Pre- or Corequisite: CHEM 1103 or CHEM 1213.

**BIOL 1584H. Honors Biology for Majors (Sp, Fa). 4 Hours.**

Integrated lecture and laboratory course designed to prepare Biology Majors to enter the rest of the Biology Core of Cell Biology, General Genetics, Evolutionary Biology, and General Ecology. Pre or Corequisite: CHEM 1103 or CHEM 1213. This course is equivalent to BIOL 1584.

**BIOL 1601L. Principles of Zoology Laboratory (ACTS Equivalency = BIOL 1054 Lab) (Su, Fa). 1 Hour.**

(Formerly ZOOL 1611L) Laboratory exercises illustrating animal structure, physiology, genetics, and ecology. Corequisite: BIOL 1603.

**BIOL 1601M. Honors Principles of Zoology Laboratory (Fa). 1 Hour.**

(Formerly ZOOL 1611M) Laboratory exercises illustrating animal structure, physiology, genetics, and ecology. Corequisite: BIOL 1603. This course is equivalent to BIOL 1601L.

**BIOL 1603. Principles of Zoology (ACTS Equivalency = BIOL 1054 Lecture) (Su, Fa). 3 Hours.**

(Formerly ZOOL 1613) Introduction to zoological principles relating to cells, organ systems, development, genetics, ecology, and animal phyla. Corequisite: BIOL 1601L or BIOL 1601M. Prerequisite: BIOL 1584 or BIOL 1543 and BIOL 1541L.

**BIOL 1611L. Plant Biology Laboratory (ACTS Equivalency = BIOL 1034 Lab) (Sp, Su). 1 Hour.**

(Formerly BOTY 1611L) Pre- or Corequisite: BIOL 1613.

**BIOL 1611M. Honors Plant Biology Laboratory (Sp). 1 Hour.**

(Formerly BOTY 1611M) Pre- or Corequisite: BIOL 1613. This course is equivalent to BIOL 1611L.

**BIOL 1613. Plant Biology (ACTS Equivalency = BIOL 1034 Lecture) (Sp, Su). 3 Hours.**

(Formerly BOTY 1613) Consideration of basic flowering plant structure, growth, development, physiology, genetics, ecology, and a brief survey of other plant groups. Lecture 3 hours per week. BIOL 1611L is recommended as a corequisite and both are required for partial fulfillment of the Fulbright College natural sciences requirement. Prerequisite: BIOL 1584 or BIOL 1543 and BIOL 1541L.

**BIOL 2011L. General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) (Sp, Su, Fa). 1 Hour.**

Techniques for handling microorganisms. Does not count toward BS in Biology. Corequisite: BIOL 2013.

**BIOL 2011M. Honors General Microbiology Laboratory (Sp, Su, Fa). 1 Hour.**

Techniques for handling microorganisms. Does not count towards BS in Biology. Corequisite: BIOL 2013. This course is equivalent to BIOL 2011L.

**BIOL 2013. General Microbiology (ACTS Equivalency = BIOL 2004 Lecture) (Sp, Su, Fa). 3 Hours.**

Basic concepts of microbiology including diversity, genetics, metabolism, growth, control of growth, pathogenesis, and immunology. Does not count towards BS in Biology. Corequisite: BIOL 2011L. Prerequisite: BIOL 1543 and BIOL 1541L and (CHEM 1073 and CHEM 1071L or CHEM 1103 or CHEM 1123 and CHEM 1121L or CHEM 1213 and CHEM 1211L).

**BIOL 2211L. Human Physiology Laboratory (ACTS Equivalency = BIOL 2414 Lab) (Sp, Fa). 1 Hour.**

(Formerly ZOOL 2211L) Exercises include experiments on osmosis, reflexes, senses, muscle, cardiovascular system, ventilation, metabolism, renal function, etc. Data collection, analysis, and report writing. Does not satisfy the Fulbright College writing requirement. Does not count toward BS in Biology. Corequisite: BIOL 2213.

**BIOL 2213. Human Physiology (ACTS Equivalency = BIOL 2414 Lecture) (Sp, Fa). 3 Hours.**

(Formerly ZOOL 2213) Fundamental concepts of physiology with emphasis in the human. Does not count toward BS in Biology. Corequisite: BIOL 2211L. Prerequisite: (CHEM 1073 and CHEM 1071L) or (CHEM 1103) or (CHEM 1123 and CHEM 1121L) and MATH 1203.

**BIOL 2321L. General Genetics Laboratory (Sp, Fa). 1 Hour.**

Analysis of genetic problems and experiments with emphasis on "hands-on" experience with a variety of organisms. May require time outside laboratory period. Laboratory 3 hours per week. Pre- or Corequisite: BIOL 2323.

**BIOL 2323. General Genetics (Sp, Fa). 3 Hours.**

Surveys of Mendelian, molecular, and population mechanisms of inheritance and gene expression in prokaryotes and eukaryotes. Lecture 3 hours per week. Prerequisite: (BIOL 1584 or BIOL 1543 and BIOL 1541L) and (CHEM 1123 and CHEM 1121L or CHEM 1223 and 1221L) and (MATH 1203 or STAT 2023 or equivalent).

**BIOL 2441L. Human Anatomy Laboratory (ACTS Equivalency = BIOL 2404 Lab) (Sp, Su, Fa). 1 Hour.**

Laboratory 3 hours exercises in mammalian anatomy. Cannot be taken without prior credit in BIOL 2443 or concurrent enrollment in BIOL 2443. Does not count toward BS in Biology. Corequisite: BIOL 2443.

**BIOL 2443. Human Anatomy (ACTS Equivalency = BIOL 2404 Lecture) (Sp, Su, Fa). 3 Hours.**

Description of human body as a series of organ systems and their interrelationships. Does not count towards BS in Biology. Corequisite: BIOL 2441L. Prerequisite: Four hours of biological sciences.

**BIOL 2531L. Cell Biology Laboratory (Sp, Fa). 1 Hour.**

Introduction to methods and techniques used in Cell Biology research. Laboratory experiences to highlight topics covered in BIOL 2533. Pre- or Corequisite: BIOL 2533.

**BIOL 2533. Cell Biology (Sp, Fa). 3 Hours.**

Introduction to cell structure, cell processes, biological polymers, energetics, and diversity. An introduction to biochemistry and cell chemistry. Pre- or Corequisite: (CHEM 1123 and CHEM 1121L) or (CHEM 1223 and CHEM 1221L) or (CHEM 1133 and CHEM 1131L) or equivalent. Prerequisite: BIOL 1584 or BIOL 1543 and BIOL 1541L.

**BIOL 3004. Principles of Plant Pathology (Fa). 4 Hours.**

Examination of the causes and symptoms of plant disease and the genetics of plant disease. Physiology, and ecology of host-pathogen interactions. Spread of disease and principles of disease control. Corequisite: Lab component. This course is cross-listed with PLPA 3004.

**BIOL 3011L. Introduction to Insect Identification Lab (Fa). 1 Hour.**

Introductory lab course on insect identification, collection, and curation techniques, primarily designed as an intensive add-on to BIOL 3013 for students wanting a more in-depth examination of insect diversity. Insect collection required. Course includes field trips. Students are encouraged to contact instructor before enrolling. Pre- or corequisite: BIOL 3013.

**BIOL 3013. Introduction to Entomology (Fa). 3 Hours.**

Fundamentals of insect biology including structure and function, development, ecology, behavior, plant feeding and disease transmission. Lecture 3 hours/week. Students interested in a more intensive examination of insects, including collection, curation, and identification techniques, should sign up for the separate one credit lab BIOL 3011L. Suggested prerequisite: BIOL 1543. This course is cross-listed with ENTO 3013.

**BIOL 3023. Evolutionary Biology (Sp, Fa). 3 Hours.**

An introduction to the mechanisms and patterns of evolutionary change. Seeks to develop logical, scientific skills and to apply them in understanding how life has changed during the history of the earth. Corequisite: Drill component. Prerequisite: (BIOL 1584 or BIOL 1543, BIOL 1541L) and BIOL 2323.

**BIOL 3123. Prokaryote Biology (Sp). 3 Hours.**

An in-depth coverage of prokaryote diversity, genetics, metabolism, growth, structures and functions. Prerequisite: BIOL 2533.

**BIOL 3123H. Honors Prokaryote Biology (Sp). 3 Hours.**

An in-depth coverage of prokaryote diversity, genetics, metabolism, growth, structures and functions. Prerequisite: BIOL 2533. This course is equivalent to BIOL 3123.



**BIOL 3273. UAteach Research Methods (Sp). 3 Hours.**

A project-based course for prospective science and mathematics teachers utilizing scientific research methods and inquiry to solve research problems. Prerequisite: ARSC 1201 and ARSC 1221 and junior standing.

This course is cross-listed with PHYS 3273, CHEM 3273.

**BIOL 3273H. Honors UAteach Research Methods (Sp). 3 Hours.**

A project-based course for prospective science and mathematics teachers utilizing scientific research methods and inquiry to solve research problems. Prerequisite: ARSC 1201 and ARSC 1221, junior standing and honors.

This course is cross-listed with PHYS 3273, CHEM 3273, BIOL 3273.

**BIOL 3404. Comparative Vertebrate Morphology (Sp, Fa). 4 Hours.**

Anatomy of selected vertebrate animals with emphasis upon homologous structures in various animal groups. The recommended anatomy course for Biology BS majors. Lecture 2 or 3 hours, laboratory 4 or 6 hours per week. Corequisite: Lab component. Prerequisite: BIOL 1584 or BIOL 1543 and BIOL 1541L.

**BIOL 3861L. General Ecology Laboratory (Fa). 1 Hour.**

General ecology lab. Pre-or Corequisite: BIOL 3863.

**BIOL 3863. General Ecology (Sp, Fa). 3 Hours.**

Ecological principles and concepts; environmental factors and interactions that determine distribution and abundance of organisms. Prerequisite: 7 hours of biological science.

**BIOL 3923H. Honors Colloquium (Irregular). 3 Hours.**

Covers a special topic or issue, offered as part of the honors program. Prerequisite: honors candidacy (not restricted to candidacy in biological sciences). May be repeated for degree credit.

**BIOL 4003. Laboratory in Prokaryote Biology (Sp, Fa). 3 Hours.**

Laboratory techniques in prokaryote culture, identification, physiology, metabolism, and genetics. Laboratory 6 hours per week. Prerequisite: BIOL 3123.

**BIOL 4013. Insect Behavior and Chemical Ecology (Even years, Sp). 3 Hours.**

Basic concepts in insect senses and patterns of behavioral responses to various environmental stimuli. Previous knowledge of basic entomology is helpful, but not required. Lecture 2 hours, laboratory/discussion 2 hours per week. Corequisite: Lab component.

This course is cross-listed with ENTO 4013.

**BIOL 4024. Insect Diversity and Taxonomy (Even years, Fa). 4 Hours.**

Principles and practices of insect classification and identification with emphasis on adult insects. Corequisite: Lab component. Prerequisite: ENTO 3013.

This course is cross-listed with ENTO 4024.

**BIOL 4053. Insect Ecology (Even years, Fa). 3 Hours.**

To develop understanding of important ecological concepts through study of dynamic relationships among insects and their environment. To become familiar with the literature of insect ecology, and interpretation and critique of ecological research. Previous knowledge of basic entomology and/or ecology will be assumed. Corequisite: Lab component.

This course is cross-listed with ENTO 4053.

**BIOL 4104. Taxonomy of Flowering Plants (Sp). 4 Hours.**

Identifying, naming, and classifying of wildflowers, weeds, trees, and other flowering plants. Emphasis is on the practical aspects of plant identification. Lecture 3 hours, laboratory 3 hours per week. Corequisite: Lab component. Prerequisite: BIOL 1613 and BIOL 1611L and BIOL 2323 and BIOL 3023.

**BIOL 4114. Dendrology (Fa). 4 Hours.**

Morphology, classification, geographic distribution, and ecology of woody plants. Lecture 3 hours, laboratory 3 hours per week, and fieldtrips. Prerequisite: BIOL 3863.

**BIOL 4122. Food Microbiology (Fa). 2 Hours.**

The study of food microbiology including classification/taxonomy, contamination, preservation and spoilage of different kinds of foods, pathogenic microorganisms, food poisoning, sanitation, control and inspection and beneficial uses of microorganisms. Prerequisite: BIOL 2013 and BIOL 2011 or BIOL 2533.

This course is cross-listed with FDSC 4122.

**BIOL 4133. Plant Disease Control (Fa). 3 Hours.**

Principles, methods and mechanics of plant disease control. Emphasis is given to the integration of control measures and epidemiology of plant diseases. Lecture 3 hours per week. Prerequisite: PLPA 3004.

This course is cross-listed with PLPA 4223.

**BIOL 4143. Advanced Methods in Microscopy (Su). 3 Hours.**

Stand alone course on laboratory methods course emphasizing techniques in modern microscopy. Individual research project required. Prerequisite: BIOL 2533 and BIOL 2531L. May be repeated for up to 6 hours of degree credit.

**BIOL 4153. Biology of Global Change (Sp). 3 Hours.**

Covers impact of global change on sustainability and adaptability of biological systems. Corequisite: BIOL 4252. Prerequisite: BIOL 1543 and BIOL 1541L.

This course is equivalent to BIOL 4154.

**BIOL 4154H. Honors Biology of Global Change (Sp). 4 Hours.**

Covers impact of global change on sustainability and adaptability of biological systems. Prerequisite: (BIOL 1584 or BIOL 1543 and BIOL 1541L) and junior standing.

This course is equivalent to BIOL 4154.

**BIOL 4163. Dynamic Models in Biology (Irregular). 3 Hours.**

Mathematical and computational techniques for developing, executing, and analyzing dynamic models arising in the biological sciences. Both discrete and continuous time models are studied. Applications include population dynamics, cellular dynamics, and the spread of infectious diseases. Prerequisite: MATH 2554. This course is cross-listed with MATH 4163.

**BIOL 4174. Conservation Genetics (Sp). 4 Hours.**

Covers concepts of biodiversity identification and illustrates how genetic data are generated and analyzed to conserve and restore biological diversity. Corequisite: Lab component and drill. Prerequisite: BIOL 3023, BIOL 3863 and STAT 2023 (or equivalent), and Junior standing.

**BIOL 4213. Biological Regulation and Subcellular Communication (Irregular). 3 Hours.**

Combines lectures, review of primary literature, student presentations, and small group discussions to explore a diversity of topics related to mechanisms of biological regulation and subcellular communication. Prerequisite: BIOL 2323 and BIOL 2533.

**BIOL 4233. Genomics and Bioinformatics (Sp). 3 Hours.**

Principles of molecular and computational analyses of genomes. Prerequisite: BIOL 2533 and BIOL 2323.

**BIOL 4233H. Honors Genomics and Bioinformatics (Sp). 3 Hours.**

Principles of molecular and computational analyses of genomes. Prerequisite: BIOL 2533 and BIOL 2323.

This course is equivalent to BIOL 4233.

**BIOL 4234. Comparative Physiology (Fa). 4 Hours.**

Comparison of fundamental physiological mechanisms in various animal groups. Adaptations to environmental factors at both the organismal and cellular levels are emphasized. Lecture 3 hours, laboratory 3 hours per week. Corequisite: Lab component. Prerequisite: BIOL 2533 and CHEM 3613 and (CHEM 3611L or CHEM 3612M).

**BIOL 4252. Biology of Global Change Seminar (Sp). 2 Hours.**

Readings, essays, and group discussions that parallel the 27 lectures in BIOL 4153 and which dissect the resulting impacts of global change on sustainability and adaptability of biological systems. Corequisite: BIOL 4153. Prerequisite: BIOL 1584 or BIOL 1543 and BIOL 1541L.

**BIOL 4252H. Honors Biology of Global Change Seminar (Sp). 2 Hours.**

Readings, essays, and group discussions that parallel the 27 lectures in BIOL 4153 and which dissect the resulting impacts of global change on sustainability and adaptability of biological systems. Corequisite: BIOL 4153. Prerequisite: BIOL 1584 or BIOL 1543 and BIOL 1541L.

This course is equivalent to BIOL 4252.

**BIOL 4263. Cell Physiology (Fa). 3 Hours.**

In-depth molecular coverage of cellular processes involved in growth, metabolism, transport, excitation, signalling and motility, with emphasis on function and regulation in eukaryotes, primarily animals. Prerequisite: BIOL 2533 and BIOL 2323 and CHEM 3813 and PHYS 2033.

**BIOL 4263H. Honors Cell Physiology (Fa). 3 Hours.**

In-depth molecular coverage of cellular processes involved in growth, metabolism, transport, excitation, signalling and motility, with emphasis on function and regulation in eukaryotes, primarily animals. Prerequisite: BIOL 2533 and BIOL 2323 and CHEM 3813 and PHYS 2033.

This course is equivalent to BIOL 4263.

**BIOL 4273. Endocrinology (Sp). 3 Hours.**

In endocrinology we study hormonal integration of living processes as all levels from molecule to organism. We will work with the mechanisms of hormone action, the endocrine control axes and hormones physiological role. The course will include paper discussions and student presentations on topics of special interest. Prerequisite: BIOL 2533 or equivalent.

**BIOL 4303. Plant Physiology (Fa). 3 Hours.**

An introductory course in plant physiology focusing on cellular processes that support the metabolic, developmental, and reproductive needs of plants. Prerequisite: BIOL 2533 or CHEM 3813 or CHEM 5843.

**BIOL 4313. Molecular Cell Biology (Sp). 3 Hours.**

In-depth molecular coverage of transcription, cell cycle, translation, and protein processing in eukaryotes and prokaryotes. Prerequisite: BIOL 2533 and BIOL 2323 and CHEM 3603 and CHEM 3601L and CHEM 3613 and CHEM 3611L.

**BIOL 4313H. Honors Molecular Cell Biology (Sp). 3 Hours.**

In-depth molecular coverage of transcription, cell cycle, translation, and protein processing in eukaryotes and prokaryotes. Prerequisite: BIOL 2533 and BIOL 2323 and CHEM 3603 and CHEM 3601L and CHEM 3613 and CHEM 3611L.

This course is equivalent to BIOL 4313.

**BIOL 4323. Comparative Neurobiology (Irregular). 3 Hours.**

Exploration of modern research approaches to understanding the development and function of animal nervous systems, with emphasis on molecular and cellular approaches in non-human animal models commonly used in biomedical research. Format combines lectures, group discussions, and student presentations using examples from the primary neurobiology literature. Prerequisite: BIOL 2323 and BIOL 2533 or equivalents.

**BIOL 4333. Biotechnology in Agriculture (Fa). 3 Hours.**

Discussion of the techniques, applications, and issues of biotechnology as it is being used in modern agriculture. Coverage includes the basics of molecular biology, production of transgenic plants and animals, and new applications in the agricultural, food, and medical marketplace. Lecture and discussion, 3 hours per week.

This course is cross-listed with PLPA 4333.

**BIOL 4353. Ecological Genetics/Genomics (Odd years, Fa). 3 Hours.**

Analysis of the genetics of natural and laboratory populations with emphasis on the ecological bases of evolutionary change. Prerequisite: BIOL 2323 and BIOL 2321L and MATH 2554 and STAT 2023 or equivalents.

**BIOL 4404. Comparative Botany (Sp). 4 Hours.**

A comparative approach to organisms classically considered to be plants with emphasis on morphology, life history, development, and phylogeny. Three hours lecture, 4 hours lab per week. Corequisite: Lab component. Prerequisite: BIOL 2323 and BIOL 2533.

**BIOL 4424. Mycology (Irregular). 4 Hours.**

Form and function of the fungi. Lecture 2 hours, laboratory 4 hours per week. Corequisite: Lab component. Prerequisite: BIOL 2323 and BIOL 2533.

**BIOL 4433. Principles of Evolution (Even years, Fa). 3 Hours.**

Advanced survey of the mechanisms of evolutionary change with special emphasis on advances since the Modern Synthesis. Historical, theoretical, and population genetics approaches are discussed. Recommended BIOL 3023 and BIOL 2321L and BIOL 3861L. Prerequisite: BIOL 2323 and BIOL 3863.

**BIOL 4463. Physiological Ecology (Odd years, Sp). 3 Hours.**

Interactions between environment, physiology, and properties of individuals and populations on both evolutionary and ecological scales. Prerequisite: BIOL 3863 and BIOL 4234 and its lab component.

**BIOL 4511L. Population Ecology Laboratory (Even years, Fa). 1 Hour.**

Population Ecology Lab. Pre- or Corequisite: BIOL 4513.

**BIOL 4513. Population Ecology (Even years, Fa). 3 Hours.**

Survey of theoretical and applied aspects of population processes stressing models of growth, interspecific interactions, and adaptation to physical and biotic environments. Prerequisite: BIOL 3863.

**BIOL 4523. Plant Ecology (Even years, Sp). 3 Hours.**

To develop understanding of important ecological concepts through study of dynamics relationships among plants and their environment. To become familiar with the literature of plant ecology, and interpretation and critique of ecological research. Prerequisite: BIOL 3863.

**BIOL 4543. Developmental Biology (Irregular). 3 Hours.**

An analysis of the principles and mechanisms of development emphasizing the embryonic and postembryonic development of animals. Prerequisite: BIOL 2533 and BIOL 2323.

**BIOL 4554. Developmental Biology with Laboratory (Fa). 4 Hours.**

An analysis of the concepts of mechanisms of development emphasizing the experimental approach. Lecture 3 hours, laboratory 3 hours per week. Students may not receive degree credit for both BIOL 4543 and BIOL 4554. Corequisite: Lab component. Prerequisite: BIOL 2533 and BIOL 2323 or graduate standing.

**BIOL 4563. Cancer Biology (Fa). 3 Hours.**

An introduction to the fundamentals of cancer biology. Prerequisite: BIOL 2533. May be repeated for up to 6 hours of degree credit.

**BIOL 4613. Primate Adaptation and Evolution (Sp). 3 Hours.**

Introduction to the biology of the order Primates. This course considers the comparative anatomy, behavioral ecology and paleontology of our nearest living relatives. Prerequisite: BIOL 3023 or ANTH 1013. This course is cross-listed with ANTH 4613.

**BIOL 4634. Wetlands Ecology and Management (Irregular). 4 Hours.**

To familiarize students with the ecology and management of wetlands. Students will be exposed to the characteristics of wetlands, the environmental factors that produce wetland types, and the management techniques used to meet desired wetland goals. Primary lecture topics will include: wetland definition, wetlands of the world, wetland status, trends, laws, wetland hydrology, wetland soils, wetland plants, wetland plant adaptations, wetland wildlife, wetland wildlife adaptations, wetland ecosystem development, and wetland management. Lecture 2 hours, Laboratory 3 hours per week. Corequisite: Lab component. Prerequisite: BIOL 3863.

**BIOL 4693. Forest Ecology (Irregular). 3 Hours.**

Introduction to the various biological, ecological and historical aspects of forest communities, with particular emphasis on the forests of the central and southeastern United States. Prerequisite: BIOL 3863.

**BIOL 4703. Mechanisms of Pathogenesis (Fa). 3 Hours.**

A survey of the events causing human disease at the molecular, cellular and genetic levels. Seeks to develop an appreciation that both the tricks pathogens use and the body's own defenses contribute to pathology. Prerequisite: BIOL 2533.

**BIOL 4703H. Honors Mechanisms of Pathogenesis (Fa). 3 Hours.**

A survey of the events causing human disease at the molecular, cellular and genetic levels. Seeks to develop an appreciation that both the tricks pathogens use and the body's own defenses contribute to pathology. Prerequisite: BIOL 2533.

This course is equivalent to BIOL 4703.

**BIOL 4711L. Basic Immunology Laboratory (Sp). 1 Hour.**

Basic immunology laboratory. Corequisite: BIOL 4713.

**BIOL 4713. Basic Immunology (Sp). 3 Hours.**

(Formerly MBIOL 4714) A general overview of immunity with emphasis on the underlying cellular, molecular, and genetic events, and discussions of more specialized issues in immunology, such as disease states involving the immune system, and other interesting problems in modern immunology. Lecture 2 hours, laboratory 4 hours per week. Prerequisite: BIOL 2323 and BIOL 2533.

**BIOL 4713H. Honors Basic Immunology (Sp). 3 Hours.**

A general overview of Immunity with emphasis on the underlying cellular, molecular, and genetic events, and discussions of more specialized issues in Immunology, such as disease states involving the Immune system, and other interesting problems in modern Immunology. Prerequisite: BIOL 2323 and BIOL 2533.

This course is equivalent to BIOL 4713.

**BIOL 4724. Protistology (Irregular). 4 Hours.**

The biology of eukaryotes other than animals, land plants, and fungi with emphasis on morphology and modern approaches to phylogenetic systematics. Three hours lecture, four hours lab/week. Involves writing term papers. Corequisite: Lab component. Prerequisite: BIOL 2533 and BIOL 2323.

**BIOL 4734. Wildlife Management Techniques (Irregular). 4 Hours.**

To familiarize students with techniques used in the management of wildlife populations. Students will be exposed to field methods, approaches to data analysis, experimental design, and how to write a scientific paper. Management applications will be emphasized. Lecture 3 hours, laboratory 3 hours per week. Corequisite: Lab component. Prerequisite: BIOL 3863.

**BIOL 4744. Fish Biology (Odd years, Sp). 4 Hours.**

Morphology, classification, life history, population dynamics, and natural history of fishes and fish-like vertebrates. Lecture 3 hours, laboratory 3 hours per week. Corequisite: Lab component. Prerequisite: 12 hours of biological science.

**BIOL 4753. General Virology (Sp). 3 Hours.**

An introduction to viral life-cycles, structure, and host cell interactions. Emphasis placed on molecular and biochemical aspects of virology. Two hour lecture and one hour discussion. Prerequisite: BIOL 2533 and BIOL 2323.

**BIOL 4763. Ornithology (Even years, Sp). 3 Hours.**

Taxonomy, morphology, physiology, behavior, and ecology of birds. Lecture, laboratory, and field work. Corequisite: Lab component. Prerequisite: BIOL 3863.

**BIOL 4774. Biometry (Even years, Sp). 4 Hours.**

Students learn biological statistics and experimental design by actually designing experiments and analyzing data, as well as through lecture, discussion, reading, writing, and problem solving. Lecture 3 hours, laboratory 3 hours each week.

Corequisite: Lab component. Prerequisite: STAT 2023 or equivalent, BIOL 3863.

**BIOL 4783. Mammalogy (Even years, Fa). 3 Hours.**

Lectures and laboratory dealing with classification, morphology, distribution, ecology, behavior, and physiology of mammals. Two hours lecture, 4 hours laboratory.

Corequisite: Lab component. Prerequisite: 10 hours Biological Sciences.

**BIOL 4793. Introduction to Neurobiology (Sp). 3 Hours.**

Exploration of the neurological underpinnings of perception, action, and experience including: how sense receptors convert information in the world into electricity, how information flows through the nervous systems, how neural wiring makes vision possible, how the nervous system changes with experience, and how the system develops. Prerequisite: BIOL 2533.

**BIOL 480V. Special Topics in Biological Sciences (Sp, Su, Fa). 1-6 Hour.**

Consideration of new areas of biological sciences not yet treated adequately in other courses. Prerequisite: 8 hours of biological sciences. May be repeated for degree credit.

**BIOL 480VH. Honors Special Topics in Biological Sciences (Sp, Su, Fa). 1-6 Hour.**

Consideration of new areas of biological sciences not yet treated adequately in other courses. Prerequisite: 8 hours of biological sciences. May be repeated for degree credit.

This course is equivalent to BIOL 480V.

**BIOL 4814. Limnology (Odd years, Fa). 4 Hours.**

Physical, chemical and biological conditions of inland waters. Lecture 3 hours, laboratory by arrangement. Corequisite: Lab component. Prerequisite: (CHEM 1123 and CHEM 1121L) or equivalent and BIOL 3863 or instructor's permission.

**BIOL 4833. Animal Behavior (Odd years, Fa). 3 Hours.**

Organization, regulation, and phylogeny of animal behavior, emphasizing vertebrates. Lecture, laboratory, and field work. Corequisite: Lab component.

**BIOL 4844. Community and Ecosystem Ecology (Odd years, Fa). 4 Hours.**

Survey of theoretical and applied aspects of community processes stressing structure, tropic dynamics, community interactions, and major community types. Corequisite: Lab component. Prerequisite: BIOL 3863.

**BIOL 485V. Field Ecology (Sp, Su). 1-3 Hour.**

Project oriented approach employing current field and laboratory techniques, experimental design, and data analysis. Field trip is required.

**BIOL 4863. Analysis of Animal Populations (Even years, Sp). 3 Hours.**

Basic principles of design and analysis for population studies of fish and wildlife species. Students will be instructed in the use of the latest software for estimating population parameters. Focus will be on both concepts and applications.

Management applications of estimated parameters will be emphasized. Lecture 2 hours, laboratory 3 hours per week. Corequisite: Lab component. Prerequisite: BIOL 3863.

**BIOL 4873. Microbial Molecular Genetics and Informatics (Fa). 3 Hours.**

Fundamentals of microbial genomics and bioinformatics. Course covers microbial genetics, genetic structure, genome organization, proteome organization, approaches for the analysis of DNA, RNA, and proteins, cellular metabolic pathways, genetic regulation, small RNA molecules, functional genomics, metagenomics, and bioinformatics approaches for analysis of microbial genomes. Prerequisite: BIOL 2323 or BIOL 2533.

**BIOL 4873H. Honors Microbial Molecular Genetics and Informatics (Fa). 3 Hours.**

Fundamentals of microbial genomics and bioinformatics. Course covers microbial genetics, genetic structure, genome organization, proteome organization, approaches for the analysis of DNA, RNA, and proteins, cellular metabolic pathways, genetic regulation, small RNA molecules, functional genomics, metagenomics, and bioinformatics approaches for analysis of microbial genomes. Prerequisite: BIOL 2323 or BIOL 2533.

This course is equivalent to BIOL 4873.

**BIOL 496V. Culture and Environment: Field Studies (Irregular). 1-6 Hour.**

May be taken by students participating in overseas study programs or other domestic field study programs approved by the department. May be repeated for up to 12 hours of degree credit.

**BIOL 496VH. Honors Culture and Environment: Field Studies (Irregular). 1-6 Hour.**

May be taken by students participating in overseas study programs or other domestic field study programs approved by the department. May be repeated for up to 12 hours of degree credit.

This course is equivalent to BIOL 496V.

**BIOL 498V. Senior Thesis (Sp, Su, Fa). 1-6 Hour.****BIOL 499V. Research In Biological Sciences (Sp, Su, Fa). 1-4 Hour.**

Prerequisite: senior standing. May be repeated for up to 8 hours of degree credit.

This course is equivalent to BIOL 499.

**BIOL 499VH. Honors Research in Biological Sciences (Sp, Su, Fa). 1-4 Hour.**

Prerequisite: Senior standing. May be repeated for up to 8 hours of degree credit.

This course is equivalent to BIOL 499.

**BIOL 5001. Seminar in Biology (Sp, Fa). 1 Hour.**

Discussion of selected topics and review of current literature in any area of the biological sciences. May be repeated for up to 2 hours of degree credit.

This course is cross-listed with CEMB 5911.

**BIOL 5003. Laboratory in Prokaryote Biology (Sp, Fa). 3 Hours.**

Laboratory techniques in prokaryote culture, identification, physiology, metabolism, and genetics. Laboratory 6 hours per week. Prerequisite: BIOL 3123.

**BIOL 5133. Insect Molecular Genetics (Even years, Sp). 3 Hours.**

A hands on course in insect molecular genetic techniques including molecular diagnostics and population genetics. Students will learn how to apply advanced molecular genetic methodologies and Internet database resources to insects that they are using for their graduate research.

This course is cross-listed with ENTO 5133.

**BIOL 5143. Advanced Methods in Microscopy (Su). 3 Hours.**

Stand alone course on laboratory methods emphasizing techniques in modern microscopy. Individual research project required. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

**BIOL 5153. Practical Programming for Biologists (Irregular). 3 Hours.**

Hands-on instruction in the fundamentals of biological computing. Students learn how to set up a Unix work station, work from the command line, install software, build databases, and program in Perl, a popular scripting language for biological applications. Most examples focus on the analysis of genomic data.

**BIOL 5174. Conservation Genetics (Sp). 4 Hours.**

Covers concepts of biodiversity identification and illustrates how genetic data are generated and analyzed to conserve and restore biological diversity. Prerequisite: BIOL 3023, BIOL 3863 and STAT 2023 (or equivalent) and graduate standing.

**BIOL 5213. Biological Regulation and Subcellular Communication (Irregular). 3 Hours.**

Combines lectures, review of primary literature, student presentations, and small group discussions to explore a diversity of topics related to mechanisms of biological regulation and subcellular communication. Prerequisite: Graduate standing.

**BIOL 5233. Genomics and Bioinformatics (Sp). 3 Hours.**

Principles of molecular and computational analyses of genomes. Prerequisite: BIOL 2533 or BIOL 2323.

**BIOL 5263. Cell Physiology (Fa). 3 Hours.**

In-depth molecular coverage of cellular processes involved in growth, metabolism, transport, excitation, signaling and motility, with emphasis on function and regulation in eukaryotes, primarily animals. Prerequisite: BIOL 2323, BIOL 2533, BIOL 2531L, CHEM 3813, and PHYS 2033.

**BIOL 5273. Endocrinology (Sp). 3 Hours.**

In endocrinology we study hormonal integration of living processes at all levels from molecule to organism. We will work with the mechanisms of hormone action, the endocrine control axes and hormones physiological role. The course will include paper discussions and student presentations on topics of special interest.

**BIOL 5303. Plant Physiology (Fa). 3 Hours.**

Introductory course in plant physiology focusing on cellular processes that support the metabolic, developmental, and reproductive needs of plants. Prerequisite: Cell Biology or Biochemistry.

**BIOL 5313. Molecular Cell Biology (Sp). 3 Hours.**

In-depth molecular coverage of transcription, cell cycle, translation, and protein processing in eukaryotes and prokaryotes. Prerequisite: BIOL 2533 and BIOL 2323 and CHEM 3603 and CHEM 3601L and CHEM 3613 and CHEM 3611L.

**BIOL 5323. Comparative Neurobiology (Irregular). 3 Hours.**

Exploration of modern research approaches to understanding the development and function of animal nervous systems, with emphasis on molecular and cellular approaches in non-human animal models commonly used in biomedical research. Format combines lectures, group discussions, and student presentations using examples from the primary neurobiology literature. Prerequisite: Graduate standing.

**BIOL 5343. Advanced Immunology (Sp). 3 Hours.**

Aspects of innate, cell-mediated, and humoral immunity in mammalian and avian species. Molecular mechanisms underlying the function of the immune system are emphasized. A course in Basic Immunology prior to enrollment in Advanced Immunology is recommended but not required. Lecture 3 hours per week.

This course is cross-listed with POSC 5343.

**BIOL 5352L. Immunology in the Laboratory (Sp). 2 Hours.**

Laboratory course on immune-diagnostic laboratory techniques and uses of antibodies as a research tool. Included are cell isolation and characterization procedures, immunochemistry, flow cytometry, ELISA and cell culture assay systems. Laboratory 6 hours per week. Prerequisite: POSC 5343 or BIOL 5343. This course is cross-listed with POSC 5352L.

**BIOL 5353. Ecological Genetics/genomics (Odd years, Fa). 3 Hours.**

Analysis of the genetics of natural and laboratory populations with emphasis on the ecological bases of evolutionary change. Prerequisite: BIOL 2323 and BIOL 2321L, BIOL 3023 and MATH 2554 and STAT 2023 or equivalents.

**BIOL 5404. Comparative Botany (Odd years, Fa). 4 Hours.**

A comparative approach to organisms classically considered to be plants with emphasis on morphology, life history, development, and phylogeny. Three hours lecture, 4 hours lab per week. Corequisite: Lab component. Prerequisite: graduate standing.

**BIOL 5414. Mycology (Irregular). 4 Hours.**

Form and function of the fungi. Lecture 2 hours, laboratory 4 hours per week. Corequisite: Laboratory component.

**BIOL 5423. Human Evolutionary Anatomy (Irregular). 3 Hours.**

Paleobiologists reconstruct past lifeways and systematic relationships of our ancestors using comparative studies of bony morphology and associated soft tissues. This course surveys methods and theories used to infer function and phylogeny, and details relevant aspects of the anatomy of humans, living great apes, and fossil human ancestors. Prerequisite: ANTH 1013 and BIOL 1543. This course is cross-listed with ANTH 5423.

**BIOL 5433. Principles of Evolution (Even years, Fa). 3 Hours.**

Advanced survey of the mechanisms of evolutionary change with special emphasis on advances since the Modern Synthesis. Historical, theoretical, and population genetics approaches are discussed. Recommended: BIOL 3023 and BIOL 2321L and BIOL 3861L. Prerequisite: BIOL 2323 and BIOL 3863.

**BIOL 5463. Physiological Ecology (Odd years, Sp). 3 Hours.**

Interactions between environment, physiology, and properties of individuals and populations on both evolutionary and ecological scales. Prerequisite: BIOL 3863 and BIOL 4234.

**BIOL 5511L. Population Ecology Laboratory (Even Years, Fa). 1 Hour.**

Demonstration of the models and concepts from BIOL 5513. Pre- or Corequisite: BIOL 5513.

**BIOL 5513. Population Ecology (Even years, Fa). 3 Hours.**

Survey of theoretical and applied aspects of populations processes stressing models of growth, interspecific interactions, and adaptation to physical and biotic environments. Corequisite: BIOL 5511L. Prerequisite: BIOL 3863.

**BIOL 5523. Plant Ecology (Even years, Sp). 3 Hours.**

To develop understanding of important ecological concepts through study of dynamics relationships among plants and their environment. To become familiar with the literature of plant ecology, and interpretation and critique of ecological research. Prerequisite: BIOL 3863.

**BIOL 5524. Developmental Biology with Laboratory (Fa). 4 Hours.**

An analysis of the concepts and mechanisms of development emphasizing the experimental approach. Students may not receive degree credit for both BIOL 5543 Developmental Biology and BIOL 5524 Developmental Biology with Laboratory. Corequisite: Lab component.

**BIOL 5534. Biochemical Genetics (Sp). 4 Hours.**

Lectures and laboratories based on modern molecular genetic techniques for analyses of eukaryotes and manipulation of prokaryotes. A hands-on course in recombinant DNA techniques: laboratory practices in gene identification, cloning, and characterization. Lecture 2 hours, laboratory 6 hours per week. Corequisite: Lab component. Prerequisite: BIOL 2323 (or equivalent) and CHEM 3813 (or equivalent).

**BIOL 5543. Developmental Biology (Irregular). 3 Hours.**

An analysis of the principles and mechanisms of development emphasizing the embryonic and postembryonic development of animals. Degree credit will not be allowed for both BIOL 5543 and BIOL 5524.

**BIOL 5553. Astrobiology (Irregular). 3 Hours.**

Discusses the scientific basis for the possible existence of extraterrestrial life. Includes the origin and evolution of life on Earth, possibility of life elsewhere in the solar system (including Mars), and the possibility of life on planets around other stars. Prerequisite: Instructor consent.

This course is cross-listed with SPAC 5553.

**BIOL 5563. Cancer Biology (Fa). 3 Hours.**

An introduction to the fundamentals of cancer biology. Prerequisite: BIOL 2533. May be repeated for up to 6 hours of degree credit.

**BIOL 5634. Wetlands Ecology and Management (Irregular). 4 Hours.**

To familiarize students with the ecology and management of wetlands. Students will be exposed to the characteristics of wetlands, the environmental factors that produce wetland types, and the management techniques used to meet desired wetland goals. Primary lecture topics will include: wetland definition, wetlands of the world, wetland status, trends, laws, wetland hydrology, wetland soils, wetland plants, wetland plant adaptations, wetland ecosystem development, and wetland management. Lecture 2 hours, Laboratory 3 hours per week. Prerequisite: BIOL 3863.

**BIOL 5643. Eukaryote Phylogeny (Odd years, Sp). 3 Hours.**

Molecular analysis of the eukaryotic tree of life, phylogenetic tree reconstruction, and eukaryote diversity and evolutionary relationships.

**BIOL 5703. Mechanisms of Pathogenesis (Fa). 3 Hours.**

A survey of events causing human disease at the molecular, cellular and genetic levels. Seeks to develop an appreciation that both the tricks pathogens use and the body's own defenses contribute to pathology.

**BIOL 5713. Basic Immunology (Sp). 3 Hours.**

A general overview of Immunity with emphasis on the underlying cellular, molecular and genetic events controlling immune reactions. Reading of the primary literature on disease states involving the immune system.

**BIOL 5723. Fish Biology (Odd years, Sp). 3 Hours.**

Morphology, classification, life histories, population dynamics, and natural history of fishes and fish-like vertebrates. Lecture 2 hours, laboratory 3 hours per week. Corequisite: Lab component. Prerequisite: 12 hours of biological sciences.

**BIOL 5734. Protistology (Irregular). 4 Hours.**

The biology of eukaryotes other than animals, land plants, and fungi with emphasis on morphology and modern approaches to phylogenetic systematics. Three hours lecture, four hours lab/week. Involves writing term papers. Corequisite: Lab component.

**BIOL 5743. Herpetology (Even years, Sp). 3 Hours.**

Morphology, classification and ecology of amphibians and reptiles. Lecture 2 hours, laboratory 1 hour per week. Corequisite: Lab component.

**BIOL 5753. General Virology (Sp). 3 Hours.**

An introduction to viral life-cycles, structure, and host cell interactions. Emphasis placed on molecular and biochemical aspects of virology. Two hour lecture and one hour discussion. Prerequisite: BIOL 2533 and BIOL 2323.

**BIOL 5763. Ornithology (Even years, Sp). 3 Hours.**

Taxonomy, morphology, physiology, behavior, and ecology of birds. Lecture, laboratory, and field work. Corequisite: Lab component. Prerequisite: 10 hours of biological sciences.

**BIOL 5783. Mammalogy (Fa). 3 Hours.**

Lectures and laboratory dealing with classification, morphology, distribution, ecology, behavior, and physiology of mammals. Two hours lecture, 4 hours laboratory. Corequisite: Lab component.

**BIOL 580V. Special Topics in Biological Sciences (Sp, Su, Fa). 1-6 Hour.**

Consideration of new areas of biological sciences not yet treated adequately in other courses. Prerequisite: 8 hours of biological sciences. May be repeated for up to 6 hours of degree credit.

**BIOL 5814. Limnology (Odd years, Fa). 4 Hours.**

Physical, chemical and biological conditions of inland waters. Lecture 3 hours per week, laboratory arranged. Corequisite: Lab component. Prerequisite: (CHEM 1123 and CHEM 1121L) or equivalent and 12 hours of biological sciences.

**BIOL 5833. Animal Behavior (Odd years, Fa). 3 Hours.**

Organization, regulation, and phylogeny of animal behavior, emphasizing vertebrates. Lecture, laboratory, and field work. Corequisite: Lab component.

**BIOL 5843. Conservation Biology (Irregular). 3 Hours.**

The study of direct and indirect factors by which biodiversity is impacted by human activity. It is a synthetic field of study that incorporates principles of ecology, biogeography, population genetics, economics, sociology, anthropology, philosophy, geology, and geography. Prerequisite: BIOL 3863.

**BIOL 5844. Community Ecology (Odd years, Fa). 4 Hours.**

Survey of theoretical and applied aspects of community processes stressing structure, trophic dynamics, community interactions, and major community types. Corequisite: Lab component. Prerequisite: BIOL 3863.

**BIOL 585V. Field Ecology (Irregular). 1-3 Hour.**

Project-oriented approach employing current field and laboratory techniques, experimental design and data analysis. Field trip is required. May be repeated for degree credit.

**BIOL 5873. Microbial Molecular Genetics and Informatics (Fa). 3 Hours.**

Fundamentals of microbial genomics and bioinformatics. Course covers microbial genetics, genetic structure, genome organization, proteome organization, approaches for the analysis of DNA, RNA, and proteins, cellular metabolic pathways, genetic regulation, small RNA molecules, functional genomics, metagenomics, and bioinformatics approaches for analysis of microbial genomes. Prerequisite: Graduate status.

**BIOL 5914. Stream Ecology (Even years, Fa). 4 Hours.**

Current concepts and research in lotic ecosystem dynamics. Lecture, laboratory, field work and individual research projects required. Corequisite: Lab component. Prerequisite: Some previous course work in ecology is essential.

**BIOL 5933. Global Biogeochemistry: Elemental Cycles and Environmental Change (Odd Years, Sp). 3 Hours.**

This course explores the chemical, biological, and geological processes occurring within ecosystems. An understanding of these processes is used to investigate how they form the global biogeochemical cycles that provide energy and nutrients necessary for life. Class discussions focus on global change and the effects of more recent anthropogenic influences. Prerequisite: College level chemistry or biochemistry and ecology.

**BIOL 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Master's Thesis. Prerequisite: Graduate standing. May be repeated for degree credit.

**BIOL 6113. Insect Physiology (Even years, Sp). 3 Hours.**

General and comparative physiology of insects. Previous knowledge of basic entomology is helpful, but not required. Lecture 2 hours, laboratory 3 hours per week. Corequisite: Lab component.

This course is cross-listed with ENTO 6113.

**BIOL 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Doctoral Dissertation. Prerequisite: Graduate standing. May be repeated for degree credit.

## Biomedical Engineering (BMEG)

### Courses

**BMEG 2613. Introduction to Biomedical Engineering (Fa). 3 Hours.**

An introductory course for undergraduate biomedical engineering students. It covers topics such as recombinant DNA technologies, cell and tissue engineering, stem cell and organ regeneration, the biomechanics, bioinstrumentation, engineering of immunity, and bio- and medical imaging, etc. The application of nano-biotechnology in developing clinical products such as tissue engineered products, drug delivery systems, etc. will be emphasized in the course. Corequisite: Drill component. Prerequisite: GNEG 1322H or GNEG 1121 or GNEG 1103; CHEM 1113 or CHEM 1103, each with a grade of C or better, and MATH 2554 and PHYS 2054.

**BMEG 2813. Biomechanical Engineering (Sp). 3 Hours.**

This course introduces basic concepts and principles of biomechanics to biomedical and other engineering students. The course topics include mechanics and materials, viscoelastic properties, bone, cartilage, ligament, tendon, muscle, cardiovascular dynamics, clinical gait analysis, etc. After taking this course, students are expected to understand the application of engineering kinetics to describe motions of human body and mechanic properties of tissues. MATLAB will be used to write and solve biomechanical static and dynamic equations. Lecture 3 hours per week. Prerequisite: BMEG 2613, CHEM 1123 or CHEM 1133, MATH 2564, and PHYS 2074.

**BMEG 2904. Biomedical Instrumentation (Sp). 4 Hours.**

This course is designed for biomedical engineering undergraduate students to learn both theoretical and practical concepts of bioinstrumentation and their applications in modern life science and medicine. Analytical experiments will be practiced in the laboratory along with the lecture section. This course covers basic topics in circuits such as charge current, voltage, resistance, power energy, linear network analysis, inductors, capacitors, operational amplifier, time-varying signals, active analog filters, bioinstrumentation design etc. The application of these principles and theories in bioinstrumentation design and development is particularly emphasized in this course. The lab section requires team work, planning, and data sharing. Corequisite: Lab component. Prerequisite: BMEG 2613, MATH 2564 and PHYS 2074.

**BMEG 3124. Biomedical Signals and Systems (Fa). 4 Hours.**

This course will introduce students to the basics of signals - continuous and digital signals, and signal processing tools, such as filters, Laplace and Fourier transforms. The 'systems' aspect of the course will focus on physiological systems and methods to model such systems. The course will also focus on the biomedical applications of these methods through lab components. Prerequisite: BMEG 2904.

**BMEG 3634. Biomaterials (Fa). 4 Hours.**

Introduction to the engineering properties of materials used in biomedical devices and applications. Topics include: atomic properties, structure-property-processing relationships, bulk engineering properties, surface and interfacial properties and applications of materials in biology and medicine. All topics will be reviewed in the context of specific biomedical devices and the engineering principles involved in their design. Corequisite: Lab component. Prerequisite: BMEG 2813, CHEM 1123 or CHEM 1133, and BIOL 1543 and BIOL 1541L.

**BMEG 3653. Biomedical Modeling and Numerical Methods (Sp). 3 Hours.**

Application of mathematical techniques to physiological systems. The emphasis will be on cellular physiology and cardiovascular system. Cellular physiology topics include models of cellular metabolism, membrane dynamics, membrane potential, excitability, wave propagation and cellular function regulation. Cardiovascular system topics include models of blood cells, oxygen transport, cardiac output, cardiac regulation, and circulation. Prerequisite: BMEG 2613, MATH 2574, and MATH 2584.

**BMEG 3653H. Honors Biomedical Modeling and Numerical Methods (Sp). 3 Hours.**

Application of mathematical techniques to physiological systems. The emphasis will be on cellular physiology and cardiovascular system. Cellular physiology topics include models of cellular metabolism, membrane dynamics, membrane potential, excitability, wave propagation and cellular function regulation. Cardiovascular system topics include models of blood cells, oxygen transport, cardiac output, cardiac regulation, and circulation. Prerequisite: BMEG 2613, MATH 2574, and MATH 2584.

This course is equivalent to BMEG 3653.

**BMEG 3824. Biomolecular Engineering (Sp). 4 Hours.**

Biomolecular Engineering is to design and produce biomolecules, especially proteins, for uses ranging from pharmaceuticals, materials, sensors, transducers, to functional interfaces with conventional engineering materials. The course begins with an introduction to the tools and techniques of molecular biology that are used for protein engineering. Additional topics include recombinant DNA techniques, biochemical kinetics, cell growth reaction and kinetics, bioreactors, membrane processes, and bioproduct purification. There is an associated laboratory with exercises related to lecture topics. Corequisite: Lab component. Prerequisite: BMEG 3634, CHEM 1123 or CHEM 1133, and BIOL 2533.

**BMEG 3824H. Honors Biomolecular Engineering (Sp). 4 Hours.**

Biomolecular Engineering is to design and produce biomolecules, especially proteins, for uses ranging from pharmaceuticals, materials, sensors, transducers, to functional interfaces with conventional engineering materials. The course begins with an introduction to the tools and techniques of molecular biology that are used for protein engineering. Additional topics include recombinant DNA techniques, biochemical kinetics, cell growth reaction and kinetics, bioreactors, membrane processes, and bioproduct purification. There is an associated laboratory with exercises related to lecture topics. Corequisite: Lab component. Prerequisite: BMEG 3634, CHEM 1123 or CHEM 1133, and BIOL 2533.

This course is equivalent to BMEG 3824.

**BMEG 4103L. Nanotechnology Laboratory (Fa). 3 Hours.**

Provides students with hands-on experience in several major areas of nanotechnology, including nanoscale imaging, synthesis of nanomaterials, nanostructure assembly and manipulation, device and system integration, and performance evaluation. Students can earn credit for only one of the following courses: MEEG 4323L, BENG 4753L, BMEG 4103L, CHEM 4153L, PHYS 4793L. Corequisite: Drill component, junior standing and instructor consent. Prerequisite: MATH 2564, PHYS 2074, CHEM 1123 or CHEM 1133.

This course is cross-listed with MEEG 4323L, CHEM 4153L, PHYS 4793L.

**BMEG 4103M. Honors Nanotechnology Laboratory (Fa). 3 Hours.**

Provides students with hands-on experience in several major areas of nanotechnology, including nanoscale imaging, synthesis of nanomaterials, nanostructure assembly and manipulation, device and system integration, and performance evaluation. Students can earn credit for only one of the following courses: MEEG 4323L, BENG 4753L, BMEG 4103L, CHEM 4153L, PHYS 4793L. Corequisite: Drill component, junior standing and instructor consent. Prerequisite: MATH 2564, PHYS 2074, CHEM 1123 or CHEM 1133.

This course is cross-listed with MEEG 4323L, CHEM 4153L, PHYS 4793L.

**BMEG 4213. Tissue Mechanics (Irregular). 3 Hours.**

The purpose of this course is to introduce students to non-linear biomechanics of soft tissues such as skin, bladder, blood vessels, and the brain. Topics covered: Tissue mechanics: continuum biomechanics, tensor analysis, kinematics of continua, balance laws. Governing physics of mechanics as applied to soft tissues. Various constitutive relations will be discussed: linear elastic, hyperelastic, viscoelastic, poroelastic, and inelastic materials with internal variables. Cannot receive credit for both BMEG 4213 and BMEG 5213. Prerequisite: BMEG 2813, BMEG major and Senior standing.

**BMEG 4243. Advanced Biomaterials and Biocompatibility (Irregular). 3 Hours.**

From Absorbable sutures to Zirconium alloy hip implants, biomaterials science influences nearly every aspect of medicine. This course focuses on the study of different classes of biomaterials and their interactions with human tissues. Topics include: biocompatibility; biofouling; hemocompatibility; wound healing response; foreign body response; design of orthopedic, dental and cardiovascular implants; ophthalmological and dermatological materials; degradable polymers for drug delivery; nanobiomaterials; smart biomaterials and the regulation of devices and materials by the FDA. Pre- or Corequisite: BMEG 4623. Prerequisite: BMEG 3634.

**BMEG 4404. Biomedical Microscopy (Irregular). 4 Hours.**

An advanced course covering light microscopy techniques, conjugate image planes, principles of contrast, fluorescence imaging, confocal and multi-photon microscopy, electron microscopy, atomic force microscopy, image reconstruction and digital image processing with supporting units in tissue culture and histology. Prerequisite: BMEG 2904, PHYS 2074, BMEG major and Senior standing.

**BMEG 4413. Tissue Engineering (Irregular). 3 Hours.**

This course introduces Tissue Engineering approaches at genetic and molecular, cellular, tissue, and organ levels. Topics include cell and tissue in vitro expansion, tissue organization, signaling molecules, stem cell and stem cell differentiation, organ regeneration, biomaterial and matrix for tissue engineering, bioreactor design for cell and tissue culture, dynamic and transportation in cell and tissue cultures, clinical implementation of tissue engineered products, and tissue-engineered devices. Prerequisite: BMEG 3824 and BIOL 2533.

**BMEG 450VH. Honors Thesis (Sp, Su). 1-4 Hour.**

Provides Biomedical Engineering students an opportunity to explore a topic in depth through an independent research or design project. Prerequisite: Honors standing. May be repeated for degree credit.

**BMEG 4513. Biomedical Optics and Imaging (Irregular). 3 Hours.**

This course will provide students with a fundamental understanding of various biomedical imaging modalities. Topics will include: Basics of light-tissue interaction - absorption, fluorescence, elastic and inelastic scattering; Computational and analytical models of light propagation to quantify tissue optical properties; Optical imaging techniques spectroscopy, tomography, and laser speckle with potential clinical applications; and Clinical imaging modalities and recent advances X-ray, Magnetic Resonance Imaging (MRI), Positron Emission Tomography (PET), Computed Tomography (CT), Ultrasound imaging, and Photoacoustic imaging. At the end of this course, students should have a good understanding of optical imaging, spectroscopy, and non-optical imaging modalities, specific anatomical sites that they are best suited for, and the trade-offs between imaging depth and resolution. Students may not receive credit for both BMEG 4513 and BMEG 5513. Prerequisite: BMEG 2904 and senior standing.

**BMEG 4523. Biomedical Data and Image Analysis (Irregular). 3 Hours.**

This course focuses on an introduction to image processing and analysis for applications in biomedical research. After a review of basic MATLAB usage, students will learn fundamental tools for processing and analyzing data from a variety of subdisciplines within biomedical engineering. Topics include: filtering, thresholding, segmentation, morphological processing, and image registration. Through exercises involving 1D, 2D, and 3D data, students will develop problem-solving skills and a knowledge base in MATLAB required for customized quantitative data analysis. Students may not receive credit for both BMEG 4523 and BMEG 5523. Prerequisite: BMEG 3124 and BMEG 3653.

**BMEG 460V. Individual Study (Sp, Su, Fa). 1-3 Hour.**

Individual study and research of a topic mutually agreeable to the student and faculty member. May be repeated for degree credit.

**BMEG 460VH. Honors Individual Study (Sp, Su, Fa). 1-3 Hour.**

Individual study and research of a topic mutually agreeable to the student and faculty member. May be repeated for degree credit.

This course is equivalent to BMEG 460V.

**BMEG 4623. Biomedical Transport Phenomena (Fa). 3 Hours.**

An introduction to the modeling of complex biological systems using principles of transport phenomena and biochemical kinetics. This course will cover molecular transport due to velocity, concentration and thermal gradients. Topics include the conservation relations; rheology of Newtonian and non-Newtonian physiological fluids; regulation of blood flow; steady and transient diffusion in reacting systems; dimensional analysis; transport processes in disease pathology. Prerequisite: BMEG 3653, CHEG 2133 or MEEG 3503, CHEG 2313 or MEEG 2403, MATH 2574 and MATH 2584.

**BMEG 4623H. Honors Biomedical Transport Phenomena (Fa). 3 Hours.**

An introduction to the modeling of complex biological systems using principles of transport phenomena and biochemical kinetics. This course will cover molecular transport due to velocity, concentration and thermal gradients. Topics include the conservation relations; rheology of Newtonian and non-Newtonian physiological fluids; regulation of blood flow; steady and transient diffusion in reacting systems; dimensional analysis; transport processes in disease pathology. Prerequisite: BMEG 3653, CHEG 2133 or MEEG 3503, CHEG 2313 or MEEG 2403, MATH 2574 and MATH 2584.

This course is equivalent to BMEG 4623.

**BMEG 470V. Special Topics in Biomedical Engineering (Irregular). 1-4 Hour.**

Consideration of current biomedical engineering topics not covered in other courses. Prerequisite: Senior standing. May be repeated for degree credit.

**BMEG 4713. Cardiovascular Physiology and Devices (Irregular). 3 Hours.**

Understanding etymology of disease while creating solutions and dedicated devices is the primary focus of biomedical engineering. This course describes an interdisciplinary approach of the clinical and engineering worlds to develop devices for treating cardiovascular disease. The first part of the course will be a thorough review of the relevant anatomic and physiological considerations important for developing devices. Understanding these considerations from an engineering perspective to inform device development will be the second part of the course. Students may not receive credit for both BMEG 4713 and BMEG 5713. Prerequisite: CHEG 2133 or MEEG 3503, and BIOL 2213.

**BMEG 4743. Drug and Gene Delivery (Irregular). 3 Hours.**

An advanced course covering important issues in drug and gene delivery in tumor and normal tissues. The course emphasizes quantitative analysis of molecule and nanoparticle transport through mathematical modeling and computer simulation. Various engineering-related topics on drug and gene delivery are discussed. These topics include physiologically-based pharmacokinetic analysis, transvascular transport, interstitial transport, transport across cell membrane, drug and gene carriers, targeted delivery of drugs, oxygen transport, delivery of effector cells and genes. Pre- or Corequisite: BMEG 4623.

**BMEG 4813. Biomedical Engineering Design I (Fa). 3 Hours.**

First semester of a two semester capstone biomedical engineering design class covered from the perspective of FDA design mandates. Students will design and prototype a medical device using Food and Drug Administration (FDA) requirements for Design Control. The course is designed as a partnership between end users (clinicians and patients) and student engineering teams. The users supply the ideas and clinical relevancy while the student teams develop requirements, build prototypes and conduct testing. The course is designed to mirror the FDA regulated product design approach that is taken by industry thereby exposing students to current best practices. All projects will be planned, managed and executed using FDA Design Control Requirements. To accomplish this, projects will utilize customer driven inputs to motivate the development of product specifications. Prototypes will be fabricated based on these specifications. The prototypes will be tested and evaluated to ensure the specifications are met. All projects will be implemented using a planned, multidisciplinary, ethics-based team approach. Corequisite: Lab component. Pre- or Corequisite: BMEG 4623.

**BMEG 4823. Biomedical Engineering Design II (Sp). 3 Hours.**

Continuation of BMEG 4813. Initial designs will be prototyped before going through a design review. Design verification issues and improvements will then be solved in a redesign phase following a design process based on Food and Drug Administration Quality System Regulation (FDA-QSR). Projects will be team oriented and lead to increased project management skills. In addition, discussions on design considerations will continue. A final written design document and an oral presentation of the working prototype will culminate the class. Corequisite: Lab component. Prerequisite: BMEG 4813.

**BMEG 4873. Bionanotechnology (Irregular). 3 Hours.**

This is an introductory course relevant to bionanotechnology. The topics covered in this course include nanobiomaterials, nanoparticles, nanowires, nanobiochips, nanobiosensors, and nanobiodevices. The applications of these nanomaterials and devices in clinical diagnostics, disease treatment, point-of-care test and/or point-of-care diagnostics, tele-medical cares, controlled and targeted drug delivery, etc. will be particularly emphasized in the lecture. Prerequisite: BMEG 2813, BMEG 3824, and CHEG 2133 or MEEG 3503.

**BMEG 4973. Regenerative Medicine (Irregular). 3 Hours.**

This is an advanced course focusing on tissue engineering and regenerative medicine. Topics include stem cell tissue engineering, cell signaling, transport and kinetics, biomaterials and scaffolds, surface interactions, viral and nonviral-based gene delivery, tissue engineered organs, organ transplantation, nanomedicine, cell replacement therapy, and organ regenerative therapy. Technologies used to grow clinical relevant cells and tissues in lab will also be discussed in this course. Pre- or corequisite: BMEG 4623.

**BMEG 5103. Design and Analysis of Experiments in Biomedical Research (Irregular). 3 Hours.**

An advanced course covering sample size estimation with power calculations, protection of vertebrate animals and human subjects, factorial design, multivariate analysis of variance, parametric and non-parametrics data analysis, Kaplan-meier analysis, and post-test correction of multiple comparisons as related to biomedical data. Prerequisite: MATH 2584 and BMEG 3653 or equivalents.

**BMEG 5203. Mathematical Modeling of Physiological Systems (Irregular). 3 Hours.**

Application of numerical methods and mathematical techniques to physiological systems. Cellular physiology topics include models of cellular metabolism, diffusion, membrane potential, excitability, calcium dynamics and intercellular signalling. Cardiovascular system topics include models of blood cells, oxygen transport, cardiac output, cardiac regulation, and circulation. Other physiology topics include respiration, muscle, vision, hearing, voice, and speech. Prerequisite: MATH 2584 or BMEG 3653 or BMEG 4623 or equivalents.

**BMEG 5213. Tissue Mechanics (Irregular). 3 Hours.**

The purpose of this course is to introduce students to non-linear biomechanics of soft tissues such as skin, bladder, blood vessels, and the brain. Topics covered: Tissue mechanics: continuum biomechanics, tensor analysis, kinematics of continua, balance laws. Governing physics of mechanics as applied to soft tissues. Various constitutive relations will be discussed: linear elastic, hyperelastic, viscoelastic, poroelastic, and inelastic materials with internal variables. Cannot receive credit for both BMEG 4213 and BMEG 5213. Prerequisite: BMEG 2813 and BMEG 4623 or equivalents.

**BMEG 5313. Advanced Biomaterials and Biocompatibility (Irregular). 3 Hours.**

From Absorbable sutures to Zirconium alloy hip implants, biomaterials science influences nearly every aspect of medicine. This course focuses on the study of different classes of biomaterials and their interactions with human tissues. Prerequisite: BMEG 3634 and BMEG 4623 or equivalents.



**BMEG 5413. Tissue Engineering (Irregular). 3 Hours.**

This course introduces Tissue Engineering approaches at genetic and molecular, cellular, tissue, and organ levels. Topics include cell and tissue in-vitro expansion, tissue organization, signaling molecules, stem cell and stem cell differentiation, organ regeneration, biomaterial and matrix for tissue engineering, bioreactor design for cell and tissue culture, dynamic and transportation in cell and tissue cultures, clinical implementation of tissue engineered products, and tissue-engineered devices. Students may not earn credit for both BMEG 5413 and BMEG 4413. Corequisite: Lab component. Prerequisite: BIOL 2533 and BMEG 3824.

**BMEG 5423. Regenerative Medicine (Irregular). 3 Hours.**

The course covers five broad areas: Biological and molecular basis for regenerative medicine, tissue development, regenerative medicine and innovative technologies, clinical applications of regenerative medicine, and regulation and ethics. Prerequisite: BIOL 2533 and BMEG 3824 or equivalents.

**BMEG 5504. Biomedical Microscopy (Irregular). 4 Hours.**

An advanced course covering light microscopy techniques, conjugate image planes, principles of contrast, fluorescence imaging, confocal and multiphoton microscopy, electron microscopy, atomic force microscopy, image reconstruction and digital image processing with supporting units in tissue culture and histology. Prerequisite: PHYS 2074 or equivalent.

**BMEG 5513. Biomedical Optics and Imaging (Irregular). 3 Hours.**

This course will provide students with a fundamental understanding of various biomedical imaging modalities. Topics will include: Basics of light-tissue interaction - absorption, fluorescence, elastic and inelastic scattering; Computational and analytical models of light propagation to quantify tissue optical properties; Optical imaging techniques - spectroscopy, tomography, and laser speckle with potential clinical applications; and Clinical imaging modalities and recent advances - X-ray, Magnetic Resonance Imaging (MRI), Positron Emission Tomography (PET), Computed Tomography (CT), Ultrasound imaging, and Photoacoustic imaging. At the end of this course, students should have a good understanding of optical imaging, spectroscopy, and non-optical imaging modalities, specific anatomical sites that they are best suited for, and the trade-offs between imaging depth and resolution. Students may not receive credit for both BMEG 4513 and BMEG 5513.

**BMEG 5523. Biomedical Data and Image Analysis (Irregular). 3 Hours.**

This course focuses on an introduction to image processing and analysis for applications in biomedical research. After a review of basic MATLAB usage, students will learn fundamental tools for processing and analyzing data from a variety of subdisciplines within biomedical engineering. Topics include: filtering, thresholding, segmentation, morphological processing, and image registration. Through exercises involving 1D, 2D, and 3D data, students will develop problem-solving skills and a knowledge base in MATLAB required for customized quantitative data analysis. Students may not receive credit for both BMEG 4523 and BMEG 5523. Prerequisite: Graduate standing.

**BMEG 560V. Advanced Individual Study (Irregular). 1-6 Hour.**

Individual study and research of a topic mutually agreeable to the student and faculty member. Prerequisite: Graduate standing.

**BMEG 570V. Advanced Special Topics (Irregular). 1-6 Hour.**

Consideration of current biomedical engineering topics not covered in other courses. Prerequisite: Graduate standing. May be repeated for up to 15 hours of degree credit.

**BMEG 5713. Cardiovascular Physiology and Devices (Irregular). 3 Hours.**

Understanding etymology of disease while creating solutions and dedicated devices is the primary focus of biomedical engineering. This course describes an interdisciplinary approach of the clinical and engineering worlds to develop devices for treating cardiovascular disease. The first part of the course will be a thorough review of the relevant anatomic and physiological considerations important for developing devices. Understanding these considerations from an engineering perspective to inform device development will be the second part of the course. Students may not receive credit for both BMEG 4713 and BMEG 5713. Prerequisite: Graduate standing.

**BMEG 5800. Graduate Seminar I (Fa). 0 Hours.**

A weekly seminar series comprised of presentations by invited speakers and graduate students as well as didactic instruction in relevant topics including research ethics, authorship, biosafety and the use of animals in biomedical research. Prerequisite: BMEG 5801. May be repeated for up to 8 hours of degree credit.

**BMEG 5801. Graduate Seminar I (Fa). 1 Hour.**

A weekly seminar series comprised of presentations by invited speakers and graduate students as well as didactic instruction in relevant topics including research ethics, authorship, biosafety and the use of animals in biomedical research.

**BMEG 5810. Graduate Seminar II (Sp). 0 Hours.**

A weekly seminar series comprised of presentations by invited speakers and graduate students as well as didactic instruction in relevant topics including professional development, career options, effective communication, technology transfer, clinical translation and intellectual property. Prerequisite: BMEG 5811. May be repeated for up to 8 hours of degree credit.

**BMEG 5811. Graduate Seminar II (Sp). 1 Hour.**

A weekly seminar series comprised of presentations by invited speakers and graduate students as well as didactic instruction in relevant topics including professional development, career options, effective communication, technology transfer, clinical translation and intellectual property.

**BMEG 5953. Fundamentals of Fracture and Fatigue in Structures (Sp, Fa). 3 Hours.**

The course will cover the concepts of linear-elastic, elastic-plastic and time-dependent Fracture Mechanics as applied to fracture in a variety of materials, structures, and operating conditions. The examples will include fracture in large components such as aircraft, bridges and pressure vessels and also in bones and in soft materials and human tissue. Prerequisite: Graduate standing in Civil, Mechanical or Biomedical Engineering or consent of the instructor. This course is cross-listed with MEEG 5953, CVEG 5953.

**BMEG 600V. Master's Thesis (Irregular). 1-6 Hour.**

Master's Thesis. Prerequisite: Graduate standing. May be repeated for degree credit.

**BMEG 700V. Doctoral Dissertation (Irregular). 1-6 Hour.**

Doctoral Dissertation. Prerequisite: Graduate standing. May be repeated for degree credit.

## Business Law (BLAW) Courses

**BLAW 2013. The Legal Environment of Business (ACTS Equivalency = BLAW 2003) (Sp, Su, Fa). 3 Hours.**

Introduction to the legal and ethical environment in which business operates. Topics covered in this survey course include: introduction to the legal system and the judicial resolution of disputes, constitutional law, administrative law, criminal law, torts, contracts, property law, advertising and marketing law, bankruptcy and credit transactions, business organizations, antitrust, employment law and ethics.

**BLAW 2013H. Honors The Legal Environment of Business (Sp, Su, Fa). 3 Hours.**

Introduction to the legal and ethical environment in which business operates. Topics covered in this survey course include: introduction to the legal system and the judicial resolution of disputes, constitutional law, administrative law, criminal law, torts, contracts, property law, advertising and marketing law, bankruptcy and credit transactions, business organizations, antitrust, employment law and ethics.

**BLAW 3033. Commercial Law (Sp). 3 Hours.**

A study of the laws applicable to commercial transactions. Topics covered include the common law of contracts, Articles Two (Sales) and Three (Commercial Paper) of the Uniform Commercial Code, secured transactions, suretyship, and bankruptcy.

**BLAW 5003. Commercial Transactions (Irregular). 3 Hours.**

A study of laws applicable to business. Topics covered include the law of Contracts and UCC Sales, Payment Systems (checking accounts and E-payments), Bankruptcy, Intellectual Property, Principal-Agency Relationships, Business Entities, Data Security, Federal Securities Law, and Accountant's Legal Liability. Prerequisite: Graduate standing.

## Career and Technical Education (CATE)

### Courses

**CATE 3003. Teaching Housing and Interior Design to Secondary Students (Fa). 3 Hours.**

This course prepares students to teach housing and interior design concepts to students in secondary school settings. Topics to be covered include housing needs and decisions, architectural design and construction, furnishings, safety and security, and careers related to the housing industry. Problem-based and project-based learning will provide the foundation for content delivery in this course.

**CATE 3103. Introduction to Professionalism (Fa). 3 Hours.**

Studying and developing educational concepts in career and technical education with accepted principles of professionalism in secondary education settings. Prerequisite: Career and Technical Education (CATE) students only. This course is equivalent to CATE 4003.

**CATE 380V. Supervised Work Experience (Sp, Su, Fa). 1-9 Hour.**

Supervision in business and industry under guidance. Designed for students who desire or need directed occupational experience. May be repeated for up to 6 hours of degree credit.

**CATE 390V. Competency Based Teacher Development: Program Organization (Sp, Su, Fa). 3-12 Hour.**

Development of competencies related to the methodology of instructional planning, execution, and evaluation. Provided by PBTE modules and University resource person. Enrollment before CATE 391V and CATE 392V. Prerequisite: Employed in service vocational-technical education field based instructor. May be repeated for up to 12 hours of degree credit.

**CATE 391V. Competency Based Teacher Development - Teaching Adults (Sp, Su, Fa). 3-12 Hour.**

Development of competencies related to vocational guidance, contemporary instructional techniques, and student vocational organizations. Provided by PBTE modules and University resource person. Prerequisite: Completion of 12 credit hours of CATE 390V and employee in-service-vocational-technical education field based instructor. May be repeated for up to 24 hours of degree credit.

**CATE 392V. Competency Based Teacher Development: Teaching & Learning (Sp, Su, Fa). 3-12 Hour.**

Development of competencies related to program planning, development, evaluation; school community relations; and professional development. Provided by CBTD modules and University resource person. Prerequisite: Completion of 12 credit hours of CATE 391V and employee in-service-vocational-technical education field based instructor. May be repeated for up to 12 hours of degree credit.

**CATE 393V. Competency Based Internship: Educational Legal Issues (Sp, Su, Fa). 3-6 Hour.**

In an actual school setting the student will satisfactorily demonstrate the competencies required to conduct a total vocational-technical education program. Instruction and follow-up will be provided by a University resource person. Prerequisite: Completion of 12 credit hours of CATE 392V and employee in-service-vocational-technical education field based instructor. May be repeated for up to 24 hours of degree credit.

**CATE 4003H. Honors Introduction to Professionalism (Fa). 3 Hours.**

Studying and developing professional concepts in vocational education with accepted principles of professionalism applied to career and technical education settings. This course is equivalent to CATE 4003.

**CATE 4013. Teaching Strategies (Fa). 3 Hours.**

Methods and techniques in the preparation and delivery of teaching. Prerequisite: CATE 3103.

**CATE 4023. Classroom Management (Fa). 3 Hours.**

Theory and techniques in classroom management, including professional ethics and school policies related to students, faculty and programs. Prerequisite: CATE 3103.

**CATE 4033. Assessment / Program Evaluation (Fa). 3 Hours.**

An introduction to constructing, evaluating and interpreting tests; descriptive and inferential statistics; state competency testing; and guidelines for state program valuations. Prerequisite: CATE 3103.

**CATE 4052. Seminar Teaching Internship (Sp). 2 Hours.**

Site-based field experiences are integrated with the course content to provide continuity between theory and practice. Classroom management, ethics and diversity are emphasized. Corequisite: CATE 406X.

**CATE 406X. Teaching Internship (Sp). 12 Hours.**

A minimum of 15 weeks will be spent in an off-campus school, at which time the student will have an opportunity under supervision to observe, to teach and to participate in other activities involving the school and the community. Successful completion of a criminal background check required before student can begin internship. Prerequisite: Senior status, CATE 4003, CATE 4013, CATE 4023, CATE 4033, CIED 3023 or CIED 4023 and CIED 3033.

**CATE 4073. Introduction to Teaching Programming in the Secondary Schools (Irregular). 3 Hours.**

This course provides an introduction to the foundations of teaching methods for computer programming in the secondary schools. Methods of computer programming instruction will include teaching strategies in coding, developing computational thinking, problem-solving skills, and applying key programming concepts. This is an introductory level course. No prerequisites are required.

**CATE 4803. Problems in Career & Technical Education (Sp, Su, Fa). 3 Hours.**

Problems and issues relating to instruction in career and technical education. You must have approval by the instructor of this course to enroll.

**CATE 5003. Introduction to Professionalism (Fa). 3 Hours.**

This course examines the principles and concepts of professionalism in the teaching profession, with an emphasis on developing professional concepts in the profession. Added emphasis is on career and technical education organizations. Prerequisite: Admission to the CATE teacher education program.

**CATE 5013. Teaching Strategies (Fa). 3 Hours.**

This course is designed to offer a variety of ideas and experiences concerning methods of teaching, planning and presenting instruction.

**CATE 5016. Cohort Teaching Internship (Sp). 6 Hours.**

A minimum of 12 weeks will be spent in an off-campus school, at which time the intern will have an opportunity under supervision to observe, to teach, and to participate in other activities involving the school and the community. Prerequisite: Admission to the College of Education and Health Professions Teacher Education and CATE Master's program.

**CATE 5033. Assessment/Program Evaluation (Fa). 3 Hours.**

An introduction to constructing, evaluating, and interpreting tests; descriptive and inferential statistics; state competency testing; and guidelines for state program evaluations. Prerequisite: Graduate standing.

**CATE 5453. Methods of Teaching Middle School Career Development (Su). 3 Hours.**

Provides a survey of types and sources of occupational information and methods of providing occupational-oriented experiences. Designed for teachers and future teachers of career orientation and is 1 of 2 required courses for vocational career orientation.

**CATE 5463. Applications in Career Orientation (Su). 3 Hours.**

Student is introduced to various teaching methods and techniques of managing hands-on activities in career orientation class setting.

**CATE 5503. Trends and Issues in Technology Education (Sp, Su, Fa). 3 Hours.**

A comprehensive technology education methods course pertaining to the teaching of standards-based curriculum materials.

**CATE 5543. Technology for Teaching and Learning (Su, Fa). 3 Hours.**

A study of computer technology as it relates to teacher education. This course concentrates on knowledge and performance and includes hands-on technology activities that can be incorporated in an educational setting. Students interact with the instructor and other students via BlackBoard and engage in weekly discussions and acquire hands-on computer technology experience.

**CATE 5573. Instructional Materials (Su, Fa). 3 Hours.**

A comprehensive course designed to give students the opportunity to understand, prepare, and test materials leading toward excellence in instruction. The focus of this course is the design and development of instructional media and materials utilizing different multimedia and software for use in educational programs. This includes the development of computer based, general instructional materials.

## Cell and Molecular Biology (CEMB)

### Courses

**CEMB 590V. Special Topics in Cell and Molecular Biology (Sp, Su, Fa). 1-6 Hour.**

Consideration of new areas in Cell and Molecular Biology not yet treated adequately in textbooks or in other courses. May be repeated for up to 6 hours of degree credit.

**CEMB 5911. Seminar in Cell and Molecular Biology (Sp, Fa). 1 Hour.**

Discussion of current topics in Cell and Molecular Biology. All graduate students in the Cell and Molecular Biology degree program must enroll every fall and spring semester in this course or an approved alternate seminar course. Prerequisite: Graduate standing. May be repeated for degree credit. This course is cross-listed with BIOL 5001.

**CEMB 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Master's thesis. Prerequisite: Graduate standing. May be repeated for degree credit.

**CEMB 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Doctoral dissertation. Prerequisite: Graduate standing. May be repeated for degree credit.

## Chemical Engineering (CHEG) Courses

**CHEG 2113. Introduction to Chemical Engineering I (Sp, Fa). 3 Hours.**

Introduction to the field of chemical engineering. Industries, careers, and the curriculum are discussed. Basic chemical engineering terms, concepts, and calculations are presented. Mass balance calculations are performed and the application of computers to chemical engineering problems is introduced. Pre- or Corequisite: CHEM 1123 or CHEM 1133 or CHEM 1223.

**CHEG 2133. Fluid Mechanics (Sp, Su, Fa). 3 Hours.**

Analysis and design of fluids handling equipment and systems. Application of the principles of fluid statics, fluid dynamics, compressible flow, etc. Pre- or Corequisite: MATH 2574 or MATH 2574C and (CHEG 2113 or BENG 2632 or BMEG 2613 or INEG 2103).

**CHEG 2133H. Honors Fluid Mechanics (Sp, Su, Fa). 3 Hours.**

Analysis and design of fluids handling equipment and systems. Application of the principles of fluid statics, fluid dynamics, compressible flow, etc. Pre- or Corequisite: MATH 2574 or MATH 2574C and (CHEG 2113 or BENG 2632 or BMEG 2613 or INEG 2103).

This course is equivalent to CHEG 2133.

**CHEG 2313. Thermodynamics of Single-Component Systems (Sp, Su, Fa). 3 Hours.**

A detailed study of the thermodynamic "state principles," energy and entropy balances, and their application to the solution of problems involving single-component physical systems and processes. Pre- or Corequisite: MATH 2574 or MATH 2574C and (CHEG 2113 or BENG 2632 or BMEG 2613 or INEG 2103).

**CHEG 2313H. Honors Thermodynamics of Single-Component Systems (Sp, Su, Fa). 3 Hours.**

A detailed study of the thermodynamic "state principles," energy and entropy balances, and their application to the solution of problems involving single-component physical systems and processes. Pre- or Corequisite: MATH 2574 or MATH 2574C and (CHEG 2113 or BENG 2632 or BMEG 2613 or INEG 2103).

This course is equivalent to CHEG 2313.

**CHEG 3144. Heat and Mass Transfer (Sp, Fa). 4 Hours.**

Applications of the principles of conduction, convection and radiation to the analysis and design of chemical processing heat transfer equipment and systems. Fundamentals of chemical diffusional and convection processes. Corequisite: Drill component. Pre- or Corequisite: CHEG 3323. Prerequisite: CHEG 2133 and MATH 2584.

**CHEG 3144H. Honors Heat and Mass Transfer (Sp, Fa). 4 Hours.**

Applications of the principles of conduction, convection and radiation to the analysis and design of chemical processing heat transfer equipment and systems. Fundamentals of chemical diffusional and convection processes. Corequisite: Drill component. Pre- or Corequisite: CHEG 3323. Prerequisite: CHEG 2133 and MATH 2584.

This course is equivalent to CHEG 3144.

**CHEG 3233L. Chemical Engineering Laboratory I (Sp, Fa). 3 Hours.**

Experimental measurements of various physical properties and comparison with published values and theoretical predictions. Experimental investigation of fluid flow and thermodynamics. Interpretation of results using graphical, numerical and statistical tools, and presentation of results in written technical reports and oral briefings. Identification and quantification of sources of experimental error. Identification of relevant experimental parameters to achieve an objective. Pre- or Corequisite: CHEG 3144. Corequisite: Drill component. Prerequisite: CHEG 2133 and CHEG 2313.

**CHEG 3253. Chemical Engineering Computer Methods (Sp, Fa). 3 Hours.**

Application of computer methods to chemical engineering problems including a review of structured programming principles. Corequisite: Drill component. Pre- or Corequisite: CHEG 3144 and CHEG 3323. Prerequisite: MATH 2584.

**CHEG 3323. Thermodynamics of Multi-Component Systems (Sp, Fa). 3 Hours.**

The use of the state principle and energy and entropy balance developed in CHEG 2313 is extended to allow processes. Physical and chemical equilibrium processes are considered in detail. Prerequisite: CHEG 2313 and MATH 2574.

**CHEG 3323H. Honors Thermodynamics of Multi-Component Systems (Sp, Fa). 3 Hours.**

The use of the state principle and energy and entropy balance developed in CHEG 2313 is extended to allow processes. Physical and chemical equilibrium processes are considered in detail. Prerequisite: CHEG 2313 and MATH 2574. This course is equivalent to CHEG 3323.

**CHEG 3333. Chemical Engineering Reactor Design (Sp, Fa). 3 Hours.**

Principles of kinetics of homogeneous and heterogeneous reactions, catalysis, and reactor design with applications, drawn from industrial processes. Pre- or Corequisite: CHEG 3253. Prerequisite: CHEG 3323.

**CHEG 3333H. Honors Chemical Engineering Reactor Design (Sp, Fa). 3 Hours.**

Principles of kinetics of homogeneous and heterogeneous reactions, catalysis, and reactor design with applications, drawn from industrial processes. Pre- or Corequisite: CHEG 3253. Prerequisite: CHEG 3323. This course is equivalent to CHEG 3333.

**CHEG 3713. Chemical Engineering Materials Technology (Sp). 3 Hours.**

Selection of metals, polymers and ceramics for service in process conditions (including corrosion). In addition to static strains on materials, specialized materials such as semiconductors, composites, and nano-materials are studied. The relationship between molecular structure and macroscopic properties is emphasized including processing and manufacture. Prerequisite: CHEM 3603 and PHYS 2054 and CHEG 3323.

**CHEG 4163. Separation Processes (Sp, Fa). 3 Hours.**

Applications of chemical engineering design to stagewise and continuous separations in systems approaching equilibrium. Prerequisite: CHEG 3144.

**CHEG 4163H. Honors Separation Processes (Sp, Fa). 3 Hours.**

Applications of chemical engineering design to stagewise and continuous separations in systems approaching equilibrium. Prerequisite: CHEG 3144. This course is equivalent to CHEG 4163.

**CHEG 4273. Corrosion Control (Sp). 3 Hours.**

Qualitative and quantitative introduction to corrosion and its control. Application of the fundamentals of corrosion control in the process industries is emphasized. Prerequisite: CHEG 2313.

**CHEG 4332L. Chemical Engineering Laboratory II (Sp, Fa). 2 Hours.**

Experimental investigations of mass transfer and kinetics/reactor design. Special attention to attaining a high order of accuracy and to presenting results in complete written reports, with emphasis on quality rather than quantity work performed. Pre- or Corequisite: CHEG 3333 and CHEG 4163. Corequisite: Drill component. Prerequisite: CHEG 3233L.

**CHEG 4413. Chemical Engineering Design I (Sp, Fa). 3 Hours.**

Principles of cost estimation, profitability, economic analysis, and economic balances as practiced in the chemical process industries. Special emphasis on the solution of problems involving the combination of engineering principles and economics. Corequisite: Drill component. Pre- or Corequisite: CHEG 4163. Prerequisite: ECON 2013 (or ECON 2143) and CHEG 3144 and CHEG 3333.

**CHEG 4413H. Honors Chemical Engineering Design I (Sp, Fa). 3 Hours.**

Principles of cost estimation, profitability, economic analysis, and economic balances as practiced in the chemical process industries. Special emphasis on the solution of problems involving the combination of engineering principles and economics. Corequisite: Drill component. Pre- or Corequisite: CHEG 4163. Prerequisite: ECON 2013 (or ECON 2143) and CHEG 3144 and CHEG 3333. This course is equivalent to CHEG 4413.

**CHEG 4423. Automatic Process Control (Sp). 3 Hours.**

Application of mathematical modeling methods to the description of transient phenomena of interest to process engineers. Modes of control and principles of feedback control are introduced with applications to process engineering problems. Pre- or Corequisite: CHEG 4163. Prerequisite: CHEG 3253.

**CHEG 4423H. Honors Automatic Process Control (Sp). 3 Hours.**

Application of mathematical modeling methods to the description of transient phenomena of interest to process engineers. Modes of control and principles of feedback control are introduced with applications to process engineering problems. Pre- or Corequisite: CHEG 4163. Prerequisite: CHEG 3253. This course is equivalent to CHEG 4423.

**CHEG 4443. Chemical Engineering Design II (Sp, Fa). 3 Hours.**

Responsibility for decision making is placed on the students in the solution of a comprehensive, open ended problem based on an industrial process. Both formal oral and formal written presentation of results are required. Corequisite: Drill component. Prerequisite: CHEG 4413.

**CHEG 4443H. Honors Chemical Engineering Design II (Sp, Fa). 3 Hours.**

Responsibility for decision making is placed on the students in the solution of a comprehensive, open ended problem based on an industrial process. Both formal oral and formal written presentation of results are required. Corequisite: Drill component. Prerequisite: CHEG 4413. This course is equivalent to CHEG 4443.

**CHEG 4813. Chemical Process Safety (Fa). 3 Hours.**

Application of chemical engineering principles to the study of safety, health, and loss prevention. Fires and explosions, hygiene, toxicology, hazard identification, and risk assessment in the chemical process industries. Corequisite: Drill component. Prerequisite: CHEG 3144 and CHEG 3323.

**CHEG 4813H. Honors Chemical Process Safety (Fa). 3 Hours.**

Application of chemical engineering principles to the study of safety, health, and loss prevention. Fires and explosions, hygiene, toxicology, hazard identification, and risk assessment in the chemical process industries. Corequisite: Drill component. Prerequisite: CHEG 3323 and CHEG 3144. This course is equivalent to CHEG 4813.

**CHEG 488V. Special Problems (Sp, Su, Fa). 1-6 Hour.**

Prerequisite: Senior standing. May be repeated for up to 6 hours of degree credit.

**CHEG 5013. Membrane Separation and System Design (Irregular). 3 Hours.**

Theory and system design of cross flow membrane process--reverse osmosis, nanofiltration, ultrafiltration, and microfiltration--and applications for pollution control, water treatment, food and pharmaceutical processing.

**CHEG 5033. Technical Administration (Irregular). 3 Hours.**

Contemporary issues affecting the domestic and global Chemical Process Industries (CPI). Emphasis is on process economics, market and corporate strategy as well as advances in technology to improve corporate earnings while addressing the threats and opportunities in the CPI. Prerequisite: Senior or graduate standing.

**CHEG 5043. Colloid and Interface Science (Odd years, Sp). 3 Hours.**

This course aims to provide essential knowledge about surface, interface, and molecular self-organization. At the end of this course students should understand (i) basic concepts to describe phenomena at surfaces, (ii) molecular self-organization, and (iii) basic techniques for characterization of surfaces and interfaces.

**CHEG 5113. Transport Processes I (Fa). 3 Hours.**

Fundamental concepts and laws governing the transfer of momentum, mass, and heat.

**CHEG 5133. Advanced Reactor Design (Sp). 3 Hours.**

Applied reaction kinetics with emphasis on the design of heterogeneous reacting systems including solid surface catalysis, enzyme catalysis, and transport phenomena effects. Various types of industrial reactors, such as packed bed, fluidized beds, and other non-ideal flow systems are considered.

**CHEG 5213. Advanced Chemical Engineering Calculations (Irregular). 3 Hours.**

Developments of and solutions of equations and mathematical models of chemical processes and mechanisms.

**CHEG 5273. Corrosion Control (Sp). 3 Hours.**

Qualitative and quantitative introduction to corrosion and its control. Application of the fundamentals of corrosion control in the process industries is emphasized.

**CHEG 5333. Advanced Thermodynamics (Fa). 3 Hours.**

Methods of statistical thermodynamics, the correlation of classical and statistical thermodynamics, and the theory of thermodynamics of continuous systems (non-equilibrium thermodynamics).

**CHEG 5353. Advanced Separations (Irregular). 3 Hours.**

Phase equilibrium in non-ideal and multicomponent systems, digital and other methods of computation are included to cover the fundamentals of distillation, absorption, and extraction.

**CHEG 5513. Biochemical Engineering Fundamentals (Even years, Sp). 3 Hours.**

An introduction to bioprocessing with an emphasis on modern biochemical engineering techniques and biotechnology. Topics include: basic metabolism (prokaryote and eukaryote), biochemical pathways, enzyme kinetics (including immobilized processes), separation processes (e.g. chromatography) and recombinant DNA methods. Material is covered within the context of mathematical descriptions (calculus, linear algebra) of biochemical phenomenon.

**CHEG 5733. Polymer Theory and Practice (Odd years, Fa). 3 Hours.**

Theories and methods for converting monomers into polymers are presented. Topics include principles of polymer science, commercial processes, rheology, and fabrication.

**CHEG 5801. Graduate Seminar (Sp, Fa). 1 Hour.**

Oral presentations are given by master's candidates on a variety of chemical engineering subjects with special emphasis on new developments. Prerequisite: Graduate standing.

**CHEG 588V. Special Problems (Sp, Su, Fa). 1-6 Hour.**

Opportunity for individual study of an advanced chemical engineering problem not sufficiently comprehensive to be a thesis. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

**CHEG 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Master's Thesis. Prerequisite: Graduate standing. May be repeated for degree credit.

**CHEG 6123. Transport Processes II (Sp). 3 Hours.**

Continuation of CHEG 5113. Prerequisite: CHEG 5113.

**CHEG 6203. Preparation of Research Proposals (Irregular). 3 Hours.**

This course will cover technical communication in both written and oral presentation. Prerequisite: Instructor consent.

**CHEG 6801. Graduate Seminar (Sp, Fa). 1 Hour.**

Oral presentations are given by doctoral students on a variety of chemical engineering subjects with special emphasis on new developments. Prerequisite: graduate standing.

**CHEG 688V. Special Topics in Chemical Engineering (Sp, Su, Fa). 1-3 Hour.**

Advanced study of current Chemical Engineering topics not covered in other courses. Prerequisite: Doctoral students only. May be repeated for up to 3 hours of degree credit.

**CHEG 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Doctoral Dissertation. Prerequisite: Candidacy. May be repeated for degree credit.

## Chemistry and Biochemistry (CHEM)

### Courses

**CHEM 1051L. Chemistry in the Modern World Laboratory (ACTS Equivalency = CHEM 1004 Lab) (Sp, Fa). 1 Hour.**

Basic laboratory exercises involving measurements of mass and volume, acids and bases, hardness of water, energy content in fuel, sugar content in drinks, and radioactivity. Meets 2 hours per week. Corequisite: CHEM 1053.

**CHEM 1053. Chemistry in the Modern World (ACTS Equivalency = CHEM 1004 Lecture) (Sp, Fa). 3 Hours.**

The impact of chemical developments upon contemporary society. Chemical problems of ecological, environmental, nutritional, economic, and sociological concern. Designed for non-science majors. Lecture 3 hours per week. Corequisite: CHEM 1051L.

**CHEM 1071L. Fundamentals of Chemistry Laboratory (ACTS Equivalency = CHEM 1214 Lab) (Fa). 1 Hour.**

Laboratory exercises in principles and practices of Fundamental Chemistry. Corequisite: CHEM 1073.

**CHEM 1073. Fundamentals of Chemistry (ACTS Equivalency = CHEM 1214 Lecture) (Su, Fa). 3 Hours.**

Fundamental principles of chemistry for students majoring in Home Economics or Nursing. Lecture 3 hours, recitation 1 hour per week. Corequisite: CHEM 1071L and related course component drill section for CHEM 1073.

**CHEM 1101L. University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa). 1 Hour.**

Laboratory exercises involving density, types of chemical reactions separations and chromatography, solubility, waters of hydration, freezing point depression, gas laws, and data interpretation. Meets 3 hours per week for 1 hour credit.

**CHEM 1103. University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa). 3 Hours.**

Survey of basic chemical principles designed as an introductory course for science, engineering or agriculture majors. Corequisite: Drill component. Pre- or Corequisite: MATH 1203 or higher, ACT MATH 23 or higher, SAT MATH 540 or higher, UA MPT PALG 80% or higher, or AP Calculus AB 3C or higher, or AP Calculus BC 4C or higher, or MATH 1203 CLEP 54 or higher.

**CHEM 1121L. University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa). 1 Hour.**

Quantitative laboratory with data interpretation and exercises covering the topics of stoichiometry, thermodynamics, kinetics, chemical equilibrium, pH, and descriptive inorganic chemistry. Laboratory 3 hours per week. Upon completion of CHEM 1121L on the UAF campus with a grade of "C" or better, credit for CHEM 1101L can be requested. Corequisite: CHEM 1123 and related course component drill section for CHEM 1123.

**CHEM 1121M. Honors University Chemistry II Laboratory (Sp, Fa). 1 Hour.**

Qualitative and quantitative laboratory with data interpretation and exercises covering the topics of stoichiometry, thermodynamics, kinetics, chemical equilibrium, pH, and descriptive inorganic chemistry. Laboratory notebooks are required as part of every experiment. Designed for students in the honors programs. Laboratory 3 hours per week. Corequisite: CHEM 1123H and related course component drill for CHEM 1123H.

This course is equivalent to CHEM 1121L.

**CHEM 1123. University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa). 3 Hours.**

Presents the topics of periodicity, bonding, stoichiometry, thermodynamics, kinetics, and chemical equilibrium in detail. Lecture 3 hours per week. Students who pass the CHEM 1103 Freshman Chemistry Proficiency Exam and enroll in CHEM 1123 and CHEM 1121L and receive a grade of C or better in these courses will also receive credit for CHEM 1103 and CHEM 1101L. Corequisite: CHEM 1121L and related course component drill section for CHEM 1123. Prerequisite: CHEM 1103 (or CHEM 1213 or satisfactory performance on the chemistry proficiency examination) and MATH 1203 or higher or satisfactory performance on the mathematics proficiency examination.

**CHEM 1123H. Honors University Chemistry II (Sp, Fa). 3 Hours.**

Presents the topics of periodicity, bonding, stoichiometry, thermodynamics, kinetics, and chemical equilibrium in detail. Lecture 3 hours per week. Upon successful completion of CHEM 1123 with a grade of "C" or better, credit for CHEM 1103 can be requested by students who passed the CHEM 1103 proficiency exam. Corequisite: CHEM 1121M and related course component drill section for CHEM 1123H. Prerequisite: CHEM 1103 (or CHEM 1213 or satisfactory performance on the chemistry proficiency examination) and MATH 1203 or higher or satisfactory performance on the mathematics proficiency examination.

This course is equivalent to CHEM 1123.

**CHEM 1201L. Chemistry for Majors I Laboratory (Fa). 1 Hour.**

Laboratory exercises involving density, types of chemical reactions separations and chromatography, solubility, waters of hydration, freezing point depression, gas laws, and data interpretation. Laboratory notebooks are required as part of every experiment. Laboratory 3 hours per week. Students may not receive credit for both CHEM 1201L and CHEM 1101L. Corequisite: CHEM 1203 and related course component drill for CHEM 1203.

**CHEM 1203. Chemistry for Majors I (Fa). 3 Hours.**

The first half of a two-semester course designed especially for students planning to major in chemistry or biochemistry. Students may not receive credit for both CHEM 1203 and CHEM 1103. Corequisite: CHEM 1201L and related course component drill section for CHEM 1203. Prerequisite: MATH 1203 or higher, or AP Calculus AB 3C or higher, AP Calculus BC 4C or higher, or College Algebra CLEP 54 or higher.

**CHEM 1221L. Chemistry for Majors II Laboratory (Sp). 1 Hour.**

Qualitative and quantitative laboratory with data interpretation and exercises covering the topics of stoichiometry, thermodynamics, kinetics, chemical equilibrium, pH, and descriptive inorganic chemistry. Laboratory notebooks are required as part of every experiment. Laboratory 3 hours per week. Students may not receive credit for both CHEM 1221L and CHEM 1121L. Corequisite: CHEM 1223 and related course component drill for CHEM 1223.

This course is equivalent to CHEM 1121L.

**CHEM 1223. Chemistry for Majors II (Sp). 3 Hours.**

The second half of a two-semester course designed specifically for students planning to major in chemistry or biochemistry. Students may not receive credit for both CHEM 1223 and CHEM 1123. Pre- or Corequisite: MATH 2554. Corequisite: CHEM 1221L and related course component drill section for CHEM 1223. Prerequisite: CHEM 1213 and CHEM 1211L (or CHEM 1103 and CHEM 1101L). This course is equivalent to CHEM 1123.

**CHEM 2261L. Analytical Chemistry Laboratory (Sp, Fa). 1 Hour.**

Covers techniques of classical and instrumental methods of chemical separation and analysis. Laboratory 4 hours per week. Chemistry Majors/Minors must take analytical lecture and lab prior to any physical chemistry course. Chemistry Majors/Minors should take analytical lecture and lab together. Pre- or Corequisite: CHEM 2263. Prerequisite: (CHEM 1123 and CHEM 1121L) or (CHEM 1123H and CHEM 1121M) or (CHEM 1223 and CHEM 1221L) or (CHEM 1073 and CHEM 1071L) and MATH 1203 or higher, or AP Calculus AB 3C or higher, or AP Calculus BC 4C or higher, or CLEP College Algebra 54 or higher.

**CHEM 2263. Analytical Chemistry Lecture (Sp, Fa). 3 Hours.**

Principles of chemical separations, analysis by classical and instrumental methods, and chemical equilibrium in physical and biological systems. Lecture 3 hours per week. Chemistry Majors/Minors must take analytical lecture and lab prior to any physical chemistry course. Chemistry Majors/Minors should take analytical lecture and lab together. Prerequisite: (CHEM 1123 and CHEM 1121L) or (CHEM 1123H and CHEM 1121M) or (CHEM 1223 and CHEM 1221L) or (CHEM 1073 and CHEM 1071L) and MATH 1203 or higher, or AP Calculus AB 3C or higher, or AP Calculus BC 4C or higher, or CLEP College Algebra 54 or higher.

**CHEM 2611L. Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) (Sp, Su, Fa). 1 Hour.**

A focus on properties of organic compounds as well as reactions of organic compounds with an emphasis on functional groups along with some classifications of certain types of compounds. Laboratory 3 hours per week. Corequisite: CHEM 2613 and related course component drill for CHEM 2613.

**CHEM 2613. Organic Physiological Chemistry (ACTS Equivalency = CHEM 1224 Lecture) (Sp, Su, Fa). 3 Hours.**

One semester survey of organic chemistry necessary for understanding of biological systems, with some related physiological chemistry. Lecture 3 hours per week. Corequisite: CHEM 2611L and related course component drill section for CHEM 2613. Prerequisite: (CHEM 1073 and CHEM 1071L) or (CHEM 1123 and CHEM 1121L) or (CHEM 1123H and CHEM 1121M) or (CHEM 1223 and CHEM 1221L).

**CHEM 3203. Forensic Chemistry (Irregular). 3 Hours.**

Survey of chemistry used in criminal investigations. Topics may include detection and identification of drugs, alcohol, toxins, explosives and gun powder residue. Chemical analysis of paint, ink, paper, soil, glass and fibers. Chemical detection of blood and fingerprints. Extraction of DNA from evidence, DNA fingerprinting. Prerequisite: CHEM 2613, or CHEM 3613 (recommended), or CHEM 3613H, or CHEM 3713.

**CHEM 3203H. Honors Forensic Chemistry (Irregular). 3 Hours.**

Survey of chemistry used in criminal investigations. Topics may include detection and identification of drugs, alcohol, toxins, explosives and gun powder residue. Chemical analysis of paint, ink, paper, soil, glass and fibers. Chemical detection of blood and fingerprints. Extraction of DNA from evidence, DNA fingerprinting. As a requirement of honors designation additional honors-level work is required of students enrolled in this section. Prerequisite: CHEM 2613, or CHEM 3613 (recommended), or CHEM 3613H, or CHEM 3713. This course is equivalent to CHEM 3203.

**CHEM 3273. UAteach Research Methods (Sp). 3 Hours.**

A project-based course for prospective science and mathematics teachers utilizing scientific research methods and inquiry to solve research problems. Prerequisite: ARSC 1201 and ARSC 1221 and junior standing. This course is cross-listed with PHYS 3273, BIOL 3273.

**CHEM 3273H. Honors UAteach Research Methods (Sp). 3 Hours.**

A project-based course for prospective science and mathematics teachers utilizing scientific research methods and inquiry to solve research problems. Prerequisite: ARSC 1201 and ARSC 1221 and junior standing. This course is cross-listed with PHYS 3273, CHEM 3273, BIOL 3273.

**CHEM 3451L. Elements of Physical Chemistry Laboratory (Fa). 1 Hour.**

Experimental measurements of the physical properties, chemical systems, error analysis and report writing. Experiments cover topics in thermochemistry, heat capacity, chemical kinetics, spectroscopy, and phase/chemical equilibrium using a variety of physical chemistry techniques. Laboratory 4 hours per week. Corequisite: Chemistry majors and chemistry minors must enroll in CHEM 3453 concurrently. Prerequisite: CHEM 2261L and PHYS 2031L (or PHYS 2074).

**CHEM 3453. Elements of Physical Chemistry (Fa). 3 Hours.**

One semester accelerated course in physical chemistry primarily for students majoring/minoring in chemistry with biochemistry option, or pre-professional and agriculture students. Topics include thermodynamics, phase & chemical equilibrium, chemical kinetics, quantum chemistry and spectroscopy. Presented at the same level as the 2-semester course with some recourse to calculus, although covering fewer topics in quantum chemistry. Lecture 3 hours per week. Students cannot earn credit for both CHEM 3453 and CHEM 3514. Corequisite: Chemistry majors and chemistry minors must enroll in CHEM 3451L concurrently. Prerequisite: CHEM 2263 and PHYS 2033 (or PHYS 2074), and MATH 2554 (or MATH 2043).

**CHEM 3504. Physical Chemistry I (Fa). 4 Hours.**

First semester of a 2-semester course in physical chemistry designed for chemistry majors and chemistry minors with topics covering wave-particle duality, quantum chemistry, atomic and molecular structure, bonding, spectroscopy and elementary statistical mechanics. Lecture and recitation 4 hours per week. Pre- or Corequisite: MATH 2564. Prerequisite: CHEM 2263 and PHYS 2074.

**CHEM 3512L. Physical Chemistry Laboratory (Sp). 2 Hours.**

Experimental studies of molecular structure, thermochemistry, and chemical kinetics, and the determination of other physicochemical properties of matter. Laboratory 8 hours per week. Students cannot earn credit for both CHEM 3451L and CHEM 3512L. Corequisite: Chemistry majors and chemistry minors must take CHEM 3514 concurrently. Prerequisite: CHEM 2261L and PHYS 2031L (or PHYS 2074).

**CHEM 3514. Physical Chemistry II (Sp). 4 Hours.**

Second semester of a 2-semester course in physical chemistry aimed for B.S. chemistry majors/minors with topics covering the laws of thermodynamics, phase & chemical equilibria; structure and properties of solutions, chemical potential, and chemical kinetics. Lecture and recitation 4 hours per week. Students cannot earn credit for both CHEM 3453 and CHEM 3514. Corequisite: Chemistry majors and chemistry minors must enroll in CHEM 3512L concurrently. Prerequisite: CHEM 3504.

**CHEM 3601L. Organic Chemistry I Laboratory (Su, Fa). 1 Hour.**

Introduction to basic techniques for separation, purification, and identification of organic compounds. Laboratory exercises in organic chemistry. Meets 3 hours per week. Corequisite: CHEM 3603 and related course component drill for CHEM 3603.

**CHEM 3602M. Honors Organic Chemistry I Laboratory (Su, Fa). 2 Hours.**

Introduction to basic techniques for separation, purification, and identification of organic compounds. Drill lecture-discussion (1hr/wk) and laboratory (4hr/wk). Writing component. Required drill. Corequisite: CHEM 3603H and related course component drill sections for CHEM 3603H and CHEM 3602M. Prerequisite: Honors candidacy. This course is equivalent to CHEM 3601L.

**CHEM 3603. Organic Chemistry I (Su, Fa). 3 Hours.**

Introduction to organic compounds including alkanes, haloalkanes, alkenes and alkynes; properties including basic stereochemistry and reactions including nucleophilic substitution, elimination, and electrophilic addition reactions. Lecture 3 hours per week. Corequisite: CHEM 3601L and related course component drill section for CHEM 3603. Prerequisite: (CHEM 1123 and CHEM 1121L) or (CHEM 1123H and CHEM 1121M) or (CHEM 1223 and CHEM 1221L).

**CHEM 3603H. Honors Organic Chemistry I (Su, Fa). 3 Hours.**

In-depth introduction to organic compounds; properties and reactions. Including alkanes, haloalkanes, alkenes and alkynes; nucleophilic substitution, elimination, and electrophilic addition reactions. Lecture 3 hours per week. Corequisite: CHEM 3602M and related course component drill sections for CHEM 3603H and CHEM 3602M. Prerequisite: Honors candidacy and ((CHEM 1123 and CHEM 1121L) or (CHEM 1123H and CHEM 1121M) or (CHEM 1223 and CHEM 1221L)). This course is equivalent to CHEM 3603.

**CHEM 3611L. Organic Chemistry II Laboratory (Sp, Su). 1 Hour.**

Continuation of CHEM 3601L and introduction to basic techniques of synthesis, isolation, and determination of structure and reactivity of organic compounds. Laboratory exercises in organic chemistry. Meets 3 hours per week. Corequisite: CHEM 3613 and related course component drill for CHEM 3613. Prerequisite: CHEM 3601L.

**CHEM 3612M. Honors Organic Chemistry II Laboratory (Sp, Su). 2 Hours.**

Continuation of CHEM 3602M and introduction to basic techniques of synthesis, isolation, and determination of structure and reactivity of organic compounds. Drill lecture-discussion (1 hour/wk) and laboratory (4 hours/wk). Writing component. Drill required. Corequisite: CHEM 3613H and related course component drill sections for CHEM 3612M and CHEM 3613H. Prerequisite: Honors candidacy and CHEM 3602M. This course is equivalent to CHEM 3611L.

**CHEM 3613. Organic Chemistry II (Sp, Su). 3 Hours.**

Basic chemistry of aromatic and carbonyl compounds; properties and reactions. Lecture 3 hours per week. Corequisite: CHEM 3611L and related course component drill section for CHEM 3613. Prerequisite: (CHEM 3603 and CHEM 3601L) or (CHEM 3603H and CHEM 3602M) or (CHEM 3703 and CHEM 3702L).

**CHEM 3613H. Honors Organic Chemistry II (Sp, Su). 3 Hours.**

In-depth coverage of the basic chemistry of aromatic and carbonyl compounds; properties and reactions. Lecture 3 hours per week. Corequisite: CHEM 3612M and related course component drill sections for CHEM 3613H and CHEM 3612M. Prerequisite: Honors candidacy and CHEM 3603H and CHEM 3602M. This course is equivalent to CHEM 3613.

**CHEM 3702L. Organic Chemistry I Lab for Chemistry Majors (Fa). 2 Hours.**

Introduction to basic techniques for separation, purification, and identification of organic compounds. Drill lecture-discussion (1hr/wk) and laboratory (4hr/wk). Writing component. Required drill. Corequisite: CHEM 3703 and related course component drill sections for CHEM 3703 and CHEM 3702L. Prerequisite: Chemistry major or minor.

**CHEM 3703. Organic Chemistry I Lecture for Chemistry Majors (Fa). 3 Hours.**

In-depth introduction to organic compounds including alkanes, haloalkanes, alkenes and alkynes; properties including basic stereochemistry and reactions including nucleophilic substitution, elimination, and electrophilic addition. Lecture 3 hours per week. Corequisite: CHEM 3702L and related course component drill sections for CHEM 3703 and CHEM 3702L. Prerequisite: Chemistry major or minor and (CHEM 1123 and CHEM 1121L) or (CHEM 1123H and CHEM 1121M) or (CHEM 1223 and CHEM 1221L).

**CHEM 3712L. Organic Chemistry II Lab for Chemistry Majors (Sp). 2 Hours.**

Continuation of CHEM 3702L and introduction to basic techniques of synthesis, isolation, and determination of structure and reactivity of organic compounds. Drill lecture-discussion (1 hour/wk) and laboratory (4 hours/wk). Writing component. Drill required. Corequisite: CHEM 3713 and related course component drill sections for CHEM 3713 and CHEM 3712L. Prerequisite: Chemistry major or minor and CHEM 3702L.

**CHEM 3713. Organic Chemistry II Lecture for Chemistry Majors (Sp). 3 Hours.**

Continuation of in-depth coverage of the basic chemistry of the compounds of carbon. Properties and reactions of aromatic and carbonyl functional groups. Lecture 3 hours per week. Corequisite: CHEM 3712L and related course component drill sections for CHEM 3713 and CHEM 3712L. Prerequisite: Chemistry major or minor and CHEM 3703 and CHEM 3702L.

This course is equivalent to CHEM 3613.

**CHEM 3813. Elements of Biochemistry (Sp, Su, Fa). 3 Hours.**

One semester survey course of the fundamentals of biochemistry. Structures, properties, and reactions of major classes of biomolecules. Basics of enzyme catalysis. Overview of metabolism. Credit for both CHEM 3813 and 4813H may not be counted toward a chemistry degree. Lecture 3 hours per week. Prerequisite: (CHEM 3613 and CHEM 3611L) or (CHEM 3613H and CHEM 3612M) or (CHEM 3713 and CHEM 3712L) or (CHEM 2613 and CHEM 2611L).

**CHEM 3923H. Honors Colloquium (Irregular). 3 Hours.**

Covers a special topic or issue. Offered as a part of the honors program. Prerequisite: Honors candidacy.

**CHEM 400V. Chemistry Research (Sp, Su, Fa). 1-4 Hour.**

Research problems. Students need to enroll in their supervising faculty mentor's section. CHBC students conducting research under a faculty mentor outside of CHBC must enroll in the CHBC chair's section. Additionally, honors students need the approval of the CHBC department honors advisor. Honors students must complete thesis in senior year. May be repeated for degree credit.

**CHEM 400VH. Honors Chemistry Research (Sp, Su, Fa). 1-4 Hour.**

Research problems. Students need to enroll in their supervising faculty mentor's section. CHBC students conducting research under a faculty mentor outside of CHBC must enroll in the CHBC chair's section. Additionally, honors students need the approval of the CHBC department honors advisor. Honors students must complete thesis in senior year. May be repeated for degree credit. This course is equivalent to CHEM 400V.

**CHEM 4011H. Honors Seminar (Sp). 1 Hour.**

Research seminar for chemistry majors enrolled in the honors program. Enrollment is required the spring semester of the junior and senior years for honors students. Senior honors students must make one research presentation to graduate with honors. Prerequisite: Honors candidacy, chemistry major and junior or senior standing. May be repeated for up to 2 hours of degree credit.

**CHEM 405V. Special Topics in Chemistry (Irregular). 1-4 Hour.**

Potential topics include: advanced spectroscopic methods, bioanalytical chemistry, bioinorganic chemistry, bioorganic chemistry, biophysical chemistry, chemical sensors, drug discovery and design, nanomaterials, pharmaceutical chemistry, process analytical chemistry, and protein folding and design. Prerequisite: Instructor consent.

**CHEM 4123. Advanced Inorganic Chemistry I (Fa). 3 Hours.**

Reactions and properties of inorganic compounds from the standpoint of electronic structure and the periodic table. Emphasis on recent developments. Prerequisite: CHEM 3514.

**CHEM 4153L. Nanotechnology Laboratory (Fa). 3 Hours.**

Provides students with hands-on experience in several major areas of nanotechnology, including nanoscale imaging, synthesis of nanomaterials, nanostructure assembly and manipulation, device and system integration, and performance evaluation. Students can earn credit for only one of the following courses: MEEG 4323L, BENG 4753L, BMEG 4103L, CHEM 4153L, PHYS 4793L. Corequisite: Drill component, junior standing and instructor consent. Prerequisite: MATH 2564, PHYS 2074, CHEM 1123 or CHEM 1133. This course is cross-listed with MEEG 4323L, PHYS 4793L.

**CHEM 4153M. Honors Nanotechnology Laboratory (Fa). 3 Hours.**

Provides students with hands-on experience in several major areas of nanotechnology, including nanoscale imaging, synthesis of nanomaterials, nanostructure assembly and manipulation, device and system integration, and performance evaluation. Students can earn credit for only one of the following courses: MEEG 4323L, BENG 4753L, BMEG 4103L, CHEM 4153L, PHYS 4793L. Corequisite: Drill component, junior standing and instructor consent. Prerequisite: MATH 2564, PHYS 2074, CHEM 1123 or CHEM 1133. This course is cross-listed with MEEG 4323L, CHEM 4153L, PHYS 4793L.

**CHEM 4211L. Instrumental Analysis Laboratory (Sp). 1 Hour.**

Provides laboratory experience in parallel with the lecture material in CHEM 4213. Laboratory 3 hours per week. Pre- or Corequisite: CHEM 4213.

**CHEM 4213. Instrumental Analysis (Sp). 3 Hours.**

Provides students, especially those in the agricultural, biological, and physical sciences, with an understanding of modern instrumental techniques of analysis. Lecture 3 hours per week. Prerequisite: (CHEM 2263 and CHEM 2261L) and ((CHEM 3613 and CHEM 3611L) or (CHEM 3713 and CHEM 3712L)).

**CHEM 4283. Energy Conversion and Storage (Even years, Fa). 3 Hours.**

Fundamental and applied concepts of energy storage and conversion, with sustainability implications. Chemical reactions (kinetics, thermodynamics, mass transfer), emphasizing oxidation-reduction, electrochemical, and interfacial processes, and impact on performance of fuel and biofuel cells, batteries, supercapacitors, and photochemical conversion. Prerequisite: CHEM 1123 and PHYS 2074.

**CHEM 4443. Physical Chemistry of Materials (Odd years, Sp). 3 Hours.**

Physical and chemical characteristics of materials and discussion of the science behind materials engineering and performance. Topics include theory, principles of characterization methods, modeling, and applications in the context of materials. Pre- or Corequisite: CHEM 3514. Prerequisite: CHEM 3453 or CHEM 3713 or MEEG 2403.

**CHEM 4723. Experimental Methods in Organic Chemistry (Fa). 3 Hours.**

Introduction to the application of synthetic and spectroscopic methods in organic chemistry, including mass spectrometry, infrared spectroscopy, and nuclear magnetic resonance spectrometry. Other laboratory techniques applicable to chemical research will be included. Lecture 2 hours, laboratory 3 hours per week, and 1 hour drill. Chemistry students may not receive graduate credit for this course and CHEM 5753. Corequisite: Drill and lab components. Prerequisite: CHEM 3613 and CHEM 3611L (or CHEM 3713 and CHEM 3712L).



**CHEM 4813H. Honors Biochemistry I (Fa). 3 Hours.**

The first of a two-course series covering biochemistry for undergraduate students in biology, agriculture, and chemistry. Topics covered include protein structure and function, enzyme kinetics, enzyme mechanisms, and nucleic acid and carbohydrate structures. Credit cannot be earned in both CHEM 3813 and CHEM 4813H. Additional honors-level work required in this section. Prerequisite: Honors candidacy and (CHEM 3613 and CHEM 3611L) or (CHEM 3613H and CHEM 3612M) or (CHEM 3713 and CHEM 3712L).

This course is cross-listed with CHEM 5813.

**CHEM 4843H. Honors Biochemistry II (Sp). 3 Hours.**

A continuation of CHEM 4813H covering topics including biological membranes and bioenergetics, photosynthesis, lipids and lipid metabolism, nucleic acid structure, structure and synthesis, and molecular biology. Credit cannot be earned in both CHEM 3813 and CHEM 4843H. Additional honors-level work required in this section. Prerequisite: Honors candidacy and CHEM 4813H.

**CHEM 4853. Biochemical Techniques (Sp). 3 Hours.**

Techniques for handling, purifying and analyzing enzymes, structural proteins, and nucleic acids. Lecture 1 hour, laboratory 6 hours per week. Pre- or Corequisite: CHEM 5813 or CHEM 3813.

**CHEM 5101. Introduction to Research (Sp, Fa). 1 Hour.**

Introduces new graduate students to research opportunities and skills in chemistry and biochemistry. Meets 1 hour per week during which new students receive information from faculty regarding research programs in the department and training in the use of research support facilities available in the department.

**CHEM 5143. Advanced Inorganic Chemistry II (Irregular). 3 Hours.**

Chemistry of metallic and non-metallic elements emphasizing molecular structure, bonding and the classification of reactions. Knowledge of inorganic chemistry comparable to material in CHEM 4123 and CHEM 5123 is recommended.

**CHEM 5153. Structural Chemistry (Irregular). 3 Hours.**

Determination of molecular structure by spectroscopic, diffraction, and other techniques. Illustrative examples will be chosen mainly from inorganic chemistry. Pre- or Corequisite: CHEM 3504 and CHEM 4123.

**CHEM 5223. Chemical Instrumentation (Odd years, Sp). 3 Hours.**

Use and application of operational amplifiers to chemical instrumentation; digital electronic microprocessor interfacing; software development and real-time data acquisition. Prerequisite: CHEM 4213 and PHYS 2074.

**CHEM 5233. Chemical Separations (Even years, Fa). 3 Hours.**

Modern separation methods including liquid chromatography (adsorption, liquid-liquid partition, ion exchange, exclusion) and gas chromatography. Theory and instrumentation is discussed with emphasis on practical aspects of separation science. Prerequisite: CHEM 4213.

**CHEM 5243. Electrochemical Methods of Analysis (Even years, Sp). 3 Hours.**

Topics will include: diffusion, electron transfer kinetics, and reversible and irreversible electrode processes; followed by a discussion of chronoamperometry, chronocoulometry, polarography, voltammetry and chronopotentiometry. Prerequisite: CHEM 4213 and MATH 2574.

**CHEM 5253. Spectrochemical Methods of Analysis (Odd years, Fa). 3 Hours.**

Principles and methods of modern spectroscopic analysis. Optics and instrumentation necessary for spectroscopy is also discussed. Topics include atomic and molecular absorption and emission techniques in the ultraviolet, visible, and infrared spectral regions. Prerequisite: CHEM 4213.

**CHEM 5263. Nuclear Chemistry (Odd years, Fa). 3 Hours.**

Nuclear structure and properties, natural and artificial radioactivity, radioactive decay processes, nuclear reaction and interactions of radiation with matter. Prerequisite: CHEM 3514.

**CHEM 5273. Cosmochemistry (Odd years, Sp). 3 Hours.**

Laws of distribution of the chemical elements in nature, cosmic and terrestrial abundance of elements; origin and age of the earth, solar system, and the universe. Prerequisite: CHEM 3514.

**CHEM 5283. Energy Conversion and Storage (Even years, Fa). 3 Hours.**

Fundamental and applied concepts of energy storage and conversion, with sustainability implications. Chemical reactions (kinetics, thermodynamics, mass transfer), emphasizing oxidation-reduction, electrochemical, and interfacial processes, and impact on performance of fuel and biofuel cells, batteries, supercapacitors, and photochemical conversion. Prerequisite or Corequisite: MATH 2564. Prerequisite: CHEM 1103, CHEM 1123, PHYS 2054, PHYS 2074, and MATH 2554.

**CHEM 5383. Chemometrics (Even years, Sp). 3 Hours.**

Chemometrics is the process of extracting relevant information from chemical data by mathematical and statistical tools. These tools allow for designing optimal experimental procedures, extracting important information from complex chemical systems, and better understanding of complex chemical systems.

**CHEM 5453. Quantum Chemistry I (Odd years, Sp). 3 Hours.**

Fundamental quantum theory: Hamiltonian formalism in classical mechanics, Schrodinger equation, operators, angular momentum, harmonic oscillator, barrier problems, rigid rotator, hydrogen atom and interaction of matter with radiation. Prerequisite: CHEM 3504. (Recommended: MATH 3404).

**CHEM 5473. Chemical Kinetics (Sp). 3 Hours.**

Theory and applications of the principles of kinetics to reactions between substances, both in the gaseous state and in solution. Prerequisite: CHEM 3514.

**CHEM 5513. Biochemical Evolution (Even years, Sp). 3 Hours.**

Abiotic synthesis of biomolecules on Earth, the origin of cells, genetic information, origin of life on Earth and elsewhere, evolution and diversity, ecological niches, bacteria, archaea, eukaryotes, novel metabolic reshaping of the environment, life being reshaped by the environment, molecular data and evolution. Prerequisite: CHEM 5813.

**CHEM 5603. Physical Organic Chemistry (Fa). 3 Hours.**

Introduction to the theoretical interpretation of reactivity, reaction mechanisms, and molecular structure of organic compounds. Application of theories of electronic structure; emphasis on recent developments. Prerequisite: (CHEM 3514 and CHEM 3713 and CHEM 3712L).

**CHEM 5633. Organic Reactions (Irregular). 3 Hours.**

The more important types of organic reactions and their applications to various classes of compounds. Prerequisite: (CHEM 3514 and CHEM 3713 and CHEM 3712L).

**CHEM 5753. Methods of Organic Analysis (Fa). 3 Hours.**

Interpretation of physical measurements of organic compounds in terms of molecular structure. Emphasis on spectroscopic methods (infrared, ultraviolet, magnet resonance, and mass spectra). Prerequisite: (CHEM 3712L and CHEM 3713 and CHEM 3514).

**CHEM 5813. Biochemistry I (Fa). 3 Hours.**

The first of a two-course series covering biochemistry for graduate students in biology, agriculture, and chemistry. Topics covered include protein structure and function, enzyme kinetics, enzyme mechanisms, and carbohydrate metabolism. Prerequisite: CHEM 3712L and CHEM 3713 (or CHEM 3613 and CHEM 3611L). This course is cross-listed with CHEM 4813H.

**CHEM 5843. Biochemistry II (Sp). 3 Hours.**

A continuation of CHEM 5813 covering topics including biological membranes and bioenergetics, photosynthesis, lipids and lipid metabolism, nucleic acid and amino acid metabolism, and molecular biology. Knowledge of organic chemistry comparable to material in CHEM 3613 is recommended. Prerequisite: CHEM 5813.

**CHEM 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Master's Thesis. Chemistry graduate students enroll in this course as needed until all CUMES are passed and the student is officially a doctoral candidate. Prerequisite: Chemistry graduate student. May be repeated for degree credit.

**CHEM 6011. Chemistry Seminar (Sp, Fa). 1 Hour.**

Members of the faculty, graduate and advanced students meet weekly for discussion of current chemical research. Weekly seminar sections are offered for the Departmental seminar and for divisional seminars in biochemistry and in analytical, inorganic, nuclear, organic, and physical chemistry. Chemistry graduate students register for the Departmental seminar section and one of the divisional seminar sections each semester they are in residence. Seminar credit does not count toward the minimum hourly requirements for any chemistry graduate degree. Prerequisite: (CHEM 3514 and CHEM 3713 and CHEM 3712L) and senior or graduate standing. May be repeated for up to 1 hours of degree credit.

**CHEM 619V. Special Topics in Inorganic Chemistry (Irregular). 1-3 Hour.**

Topics which have been covered in the past include: technique and theory of x-ray diffraction, electronic structure of transition metal complexes, inorganic reaction mechanisms, and physical methods in inorganic chemistry. May be repeated for degree credit.

**CHEM 6283. Mass Spectrometry (Odd years, Sp). 3 Hours.**

This course is devoted to the fundamental principles and applications of analytical mass spectrometry. Interactions of ions with magnetic and electric fields and the implications with respect to mass spectrometer design are considered, as are the various types of mass spectrometer sources. Representative applications of mass spectrometry in chemical analysis are also discussed. Prerequisite: Graduate standing.

**CHEM 629V. Special Topics in Analytical Chemistry (Irregular). 1-3 Hour.**

Topics that have been presented in the past include: electroanalytical techniques, kinetics of crystal growth, studies of electrode processes, lasers in chemical analysis, nucleosynthesis and isotopic properties of meteorites, thermoluminescence of geological materials, early solar system chemistry and analytical cosmochemistry. May be repeated for degree credit.

**CHEM 649V. Special Topics in Physical Chemistry (Irregular). 1-3 Hour.**

Topics which have been covered in the past include advanced kinetics, solution chemistry, molecular spectra, nuclear magnetic resonance spectroscopy, and methods of theoretical chemistry. May be repeated for degree credit.

**CHEM 6633. Chemistry of Organic Natural Products (Irregular). 3 Hours.**

Selected topics concerned with structure elucidation and synthesis of such compounds as alkaloids, antibiotics, bacterial metabolites, plant pigments, steroids, terpenoids, etc. Prerequisite: CHEM 5603 and CHEM 5633.

**CHEM 6643. Organometallic Chemistry (Irregular). 3 Hours.**

Theories and principles of organometallic chemistry. Concepts include bonding, stereochemistry, structure and reactivity, stereochemical principles, conformational, steric and stereoelectronic effects. Transition metal catalysis of organic reactions will also be described. Prerequisite: CHEM 3504, and CHEM 3514, and CHEM 3703, and CHEM 3713 or permission of instructor.

**CHEM 6673. Organic Reaction Mechanisms (Irregular). 3 Hours.**

A detailed description of the fundamental reactions and mechanisms of organic chemistry. Prerequisite: CHEM 5633.

**CHEM 669V. Special Topics in Organic Chemistry (Irregular). 1-3 Hour.**

Topics which have been presented in the past include heterogeneous catalysis, isotope effect studies of organic reaction mechanisms, organometallic chemistry, stereochemistry, photochemistry, and carbanion chemistry. May be repeated for degree credit.

**CHEM 6823. Physical Biochemistry (Even years, Fa). 3 Hours.**

Physical chemistry of proteins, nucleic acids, and biological membranes. Ultracentrifugation, absorption and fluorescent spectrophotometry, nuclear magnetic resonance spectroscopy, x-ray diffraction, and other techniques. Prerequisite: (CHEM 3514 and CHEM 5813) or graduate standing.

**CHEM 6863. Enzymes (Odd years, Fa). 3 Hours.**

Isolation, characterization, and general chemical and biochemical properties of enzymes. Kinetics, mechanisms, and control of enzyme reactions. Prerequisite: CHEM 5813 and CHEM 5843.

**CHEM 6873. Molecular Biochemistry (Odd years, Sp). 3 Hours.**

Nucleic acid chemistry in vitro and in vivo, synthesis of DNA and RNA, genetic diseases, cancer biochemistry and genetic engineering. Prerequisite: CHEM 5813 and CHEM 5843.

**CHEM 6883. Bioenergetics and Biomembranes (Even years, Sp). 3 Hours.**

Cellular energy metabolism, photosynthesis, membrane transport, properties of membrane proteins, and the application of thermodynamics to biological systems. Prerequisite: CHEM 5813 and CHEM 5843.

**CHEM 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Doctoral Dissertation. Prerequisite: Graduate standing. May be repeated for degree credit.

## Chinese (CHIN) Courses

**CHIN 1003. Elementary Chinese I (Fa). 3 Hours.****CHIN 1013. Elementary Chinese II (Sp). 3 Hours.**

Elementary courses stress correct pronunciation, Aural comprehension, and simple speaking ability, and lead to active mastery of basic grammar and limited reading ability.

**CHIN 2003. Intermediate Chinese I (Fa). 3 Hours.**

Intermediate courses lead to greater facility in spoken language and to more advanced reading skills.

**CHIN 2013. Intermediate Chinese II (Sp). 3 Hours.**

Continued development of basic speaking comprehension and writing skills and intensive development of reading skills.

**CHIN 3003. Advanced Chinese (Fa). 3 Hours.**

Continues to develop speaking, listening, reading and writing skills and presents more complex forms and structures of the language as well as additional characters. Prerequisite: CHIN 2013.

**CHIN 3033. Conversation (Sp). 3 Hours.**

Guided conversation practice for the post-intermediate student. Prerequisite: CHIN 2013 or equivalent.

**CHIN 3103. Chinese Culture and Film (Fa). 3 Hours.**

A course based on film and readings designed to give insight into Chinese civilization and culture with special emphasis on ethnicity, modern history, contemporary society, education, language, customs, and visual arts. This course is taught in English. May be repeated for up to 6 hours of degree credit.

**CHIN 3983. Special Studies (Irregular). 3 Hours.**

May be offered in subject not specifically covered by courses otherwise listed. May be repeated for up to 6 hours of degree credit.

**CHIN 4313. Culture and Society in China (Sp). 3 Hours.**

Introduction of key principles, customs, and behaviors in Chinese society to help students understand the Chinese business context. This course is taught in English.

**CHIN 4333. Business Chinese Language in Speaking and Writing (Fa). 3 Hours.**

Introduction of Chinese vocabulary, formats, and expressions in business environments, such as company structures, management, banking and accounting, as well as how to read and write contracts, letters, and other business documents. Prerequisite: CHIN 3003 or equivalent Chinese proficiency.

## Civil Engineering (CVEG)

### Courses

**CVEG 2002. Introduction to Civil Engineering Plans and CADD (Sp, Su, Fa). 2 Hours.**

Development and preparation of design and construction plans; plan terminology and features; introduction to computer-aided drafting and design (CADD) software. Corequisite: Drill component. Prerequisite: Civil Engineering major or departmental consent.

**CVEG 2015. Fundamentals of Mechanics for Civil Engineers (Sp, Fa). 5 Hours.**

Provides the students with a foundation in the theory and principles of Statics and Mechanics of Materials for use in subsequent civil engineering courses. The course applies mathematics and physics to solve practical problems of mechanics. A general analysis approach is emphasized for problem solving and as an introduction to the Engineering Design Process. Pre- or Corequisite: MATH 3083 or MATH 2574. Prerequisite: MATH 2564 and PHYS 2054 with grades of C or higher.

**CVEG 2051L. Surveying Systems Laboratory (Sp, Fa). 1 Hour.**

Laboratory exercises demonstrating the principles and practices of surveying systems. Corequisite: CVEG 2053.

**CVEG 2053. Surveying Systems (Sp, Fa). 3 Hours.**

Coordinate geometry, measurements, and total integrated surveying systems; total stations, electronic data collection, and reduction; error analysis; applications to civil engineering and surveying practice. Pre- or Corequisite: MATH 2554. Corequisite: CVEG 2051L.

**CVEG 2113. Structural Materials (Sp, Fa). 3 Hours.**

Production, properties, behavior, and structural applications of concrete, steel, timber, masonry, and plastic. Statistical analysis methods for quality control are also covered. Lecture 2 hours, laboratory 3 hours per week. Corequisite: Lab component. Prerequisite: CVEG 2015 (formerly CVEG 2014) with a grade of C or better or MEEG 3013 with a grade of C or better.

**CVEG 2851. Engineering Professional Practice Issues (Sp, Fa). 1 Hour.**

Study of various issues related to the professional practice of engineering including ethics, professionalism, professional licensure, project procurement, social and political issues, globalism, and other legal issues.

**CVEG 3131L. Soil Mechanics Laboratory (Sp, Fa). 1 Hour.**

Index, strength, and consolidation properties of soils; test methods and specifications for soil sampling and testing. Corequisite: CVEG 3133.

**CVEG 3133. Soil Mechanics (Sp, Fa). 3 Hours.**

Introduction to geotechnical engineering. Properties of soils related to foundations, retaining walls, earth structures, and highways. Lecture 2 hours, laboratory 3 hours per week. Corequisite: CVEG 3131L. Pre- or Corequisite: CVEG 3213 and MATH 2584. Prerequisite: (MEEG 3013 or CVEG 2014) and (GEOL 1113 or GEOL 3002) with grades of C or better.

**CVEG 3213. Hydraulics (Sp, Fa). 3 Hours.**

Study of incompressible fluids. Topics include fluid properties, fluid statics, continuity, energy and hydraulic gradients, fundamentals of flow in pipes and open channels. Hardy Cross analyses, measurement of flow of incompressible fluids, hydraulic similitude and dimensional analysis. Lecture 2 hours, laboratory 3 hours per week. Corequisite: Lab component. Prerequisite: CVEG 2014 or MEEG 2003, either with a grade of C or better.

**CVEG 3223. Hydrology (Sp, Fa). 3 Hours.**

Flood routing procedures in storage reservoirs and channels. Hydrologic planning including storage reservoir design, frequency duration analysis, and related techniques. Prerequisite: CVEG 2053 or BENG 2643; and CVEG 3213 or MEEG 3503 or CHEG 2133 with grades of C or better.

**CVEG 3243. Environmental Engineering (Sp, Fa). 3 Hours.**

Introduction to theories and fundamentals of physical, chemical, and biological processes with emphasis on water supply and wastewater collection, transportation, and treatment. Lecture 2 hours, laboratory 3 hours per week. Corequisite: Lab component. Prerequisite: MATH 2584 with a grade of C or better, and CHEM 1103 or CHEM 1113 with a grade of C or better.

**CVEG 3303. Structural Analysis (Sp, Fa). 3 Hours.**

Truss analysis, influence lines for beams and frames, and effects of moving loads. Deformation of beams, frames, and trusses. Analysis of indeterminate structures by moment area, slope deflection, and moment distribution methods; approximate methods of analysis. Lecture 3 hours, drill 3 hours per week. Corequisite: Drill component. Prerequisite: MEEG 3013 or CVEG 2014, each with a grade of C or better.

**CVEG 3413. Transportation Engineering (Fa). 3 Hours.**

Introduction to highway and transportation engineering, planning, finance, economics, traffic, and geometric design of transportation facilities; theory and application of driver, vehicle and roadway characteristics as they relate to roadway and intersection design; safety, capacity, traffic operations, and environmental effects for highway engineering. Prerequisite: CVEG 2053 with a grade of C or better.

**CVEG 4053. Land Surveying (Irregular). 3 Hours.**

Historical background of property surveys. Detailed consideration of original surveys and the United States Public Land Surveys. Writing adequate land descriptions. Interpretation of old descriptions. Excess and deficiency. Riparian rights. Field practice in relocation of old corners. Prerequisite: Senior standing and CVEG 2053 with a grade of C or better.

**CVEG 4083. Control Surveys (Irregular). 3 Hours.**

Sun and Polaris observations for astronomic azimuth, solar access studies; control traversing, leveling, triangulation; state plane coordinate systems. Lecture 2 hours, laboratory 3 hours per week. Corequisite: Lab component. Prerequisite: CVEG 2053 and CVEG 2051L with grades of C or better.

**CVEG 4143. Foundation Engineering (Sp, Fa). 3 Hours.**

Analysis and design of retaining walls, footings, sheet piles, and piles. Determination of foundation settlements in sand and clay. Prerequisite: CVEG 3133 with a grade of C or better.

**CVEG 4153. Earth Structures (Irregular). 3 Hours.**

The use of soil as a construction material including compaction, cement, lime, and fly ash stabilization. Special topics include seepage, slope stability, swelling, and collapsible soils. Prerequisite: CVEG 3133 with a grade of C or better.

**CVEG 4203. Environmental Regulations and Permits (Fa). 3 Hours.**

Topics include federal and state environmental regulations, the permitting process, permit requirements and related issues. Prerequisite: CVEG 3243 with a grade of C or better and senior standing.

**CVEG 4223. Groundwater Hydrology (Fa). 3 Hours.**

Detailed analysis of groundwater movement, well hydraulics, groundwater pollution and artificial recharge. Surface and subsurface investigations of groundwater and groundwater management, saline intrusion and groundwater modeling will be addressed. Prerequisite: CVEG 3223.

**CVEG 4243. Environmental Engineering Design (Sp, Fa). 3 Hours.**

Application of physical, biological, and chemical operations and processes to the design of water supply and wastewater treatment systems. Prerequisite: CVEG 3243 with a grade of C or better.

**CVEG 4253. Small Community Wastewater Systems (Irregular). 3 Hours.**

Design of innovative and alternative wastewater collection, transport, and treatment systems typically suited for rural and small community applications. Recitation 3 hours per week. Prerequisite: CVEG 3243.

**CVEG 4263. Air Pollution Control (Sp). 3 Hours.**

Fundamentals of air pollution causes, effects, and measurements; as well as, control methods with application to current industrial problems. Prerequisite: CVEG 3213 or MEEG 3503.

**CVEG 4273. Open Channel Flow (Sp). 3 Hours.**

Open Channel Flow includes advanced open channel hydraulics, flow measurement techniques, a hydrology review, culvert and storm drainage design, natural channel classification (fluvial geomorphology) and rehabilitation, computer methods and environmental issues. Prerequisite: CVEG 3213 and CVEG 3223.

**CVEG 4303. Reinforced Concrete Design I (Sp, Fa). 3 Hours.**

Design of reinforced concrete elements with emphasis on ultimate strength design supplemented by working stress design for deflection and crack analysis. Prerequisite: CVEG 2113 and CVEG 3304 with grades of C or better.

**CVEG 4313. Structural Steel Design I (Sp, Fa). 3 Hours.**

Design of structural steel elements by elastic design the Load and Resistance Factor Design method. Intensive treatment of tension members, beams, columns, and connections. Pre- or Corequisite: CVEG 2113. Prerequisite: CVEG 3304 with a grade of C or better.

**CVEG 4323. Structural Loadings (Sp). 3 Hours.**

Theoretical background to and practical code requirements for various structural loadings. These include dead loads, occupancy loads, roof loads and ponding, snow loads, granular loads, vehicular loads, wind loading, and seismic loads. Prerequisite: CVEG 3304 and CVEG 4303 (or CVEG 4313) with grades of C or better.

**CVEG 4343. Reinforced Masonry Design (Irregular). 3 Hours.**

Properties of masonry materials and assemblages. Masonry workmanship and quality control. Design of reinforced masonry elements against gravity and lateral loads. Design of masonry connections and joints. Application to 1- and 2-story buildings. Prerequisite: CVEG 4303.

**CVEG 4353. Timber Design (Irregular). 3 Hours.**

Selection of timber beams, columns, and beam-columns. Physical properties of wood, analysis and design of timber connections. Truss design, glulam members, timber bridge design, treatment for decay, and fire protection. Pre- or Corequisite: CVEG 2113. Prerequisite: CVEG 3304 with a grade of C or better.

**CVEG 4393. Reinforced Concrete Design II (Irregular). 3 Hours.**

Shear strength, minimum thickness requirements, and deflection calculations for reinforced concrete structural slabs. Design of one-way and two-way structural slabs by the direct design and equivalent frame methods. Prerequisite: CVEG 4303 with a grade of C or better.

**CVEG 4413. Pavement Evaluation and Rehabilitation (Irregular). 3 Hours.**

Introduction of concepts and procedures for pavement condition surveys; evaluation by nondestructive and destructive testing; maintenance strategies; rehabilitation of pavement systems for highway and airfields; pavement management systems. Prerequisite: CVEG 4433 with a grade of C or better.

**CVEG 4423. Geometric Design (Sp, Fa). 3 Hours.**

The geometric design of streets and highways, based on theory and application of driver and vehicle characteristics. Corequisite: Lab component. Prerequisite: CVEG 3413 with grade of C or better.

**CVEG 4433. Transportation Pavements and Materials (Irregular). 3 Hours.**

Study of the engineering properties and behavior of materials commonly used in transportation facilities as they relate to the design and performance of flexible and rigid pavement systems. Lecture 2 hours, laboratory 3 hours per week. Corequisite: Lab component. Prerequisite: CVEG 3133, CVEG 3413, and INEG 2313 with grades of C or better.

**CVEG 4513. Construction Management (Sp, Fa). 3 Hours.**

Introduction to methods and procedures for management of civil engineering construction projects including organization, plans and specs, cost estimating and bidding, project planning and finance, quality control/ assurance, construction safety, cost management, labor issues, change orders, and subcontractor issues. Prerequisite: Senior standing.

**CVEG 4812. Environmental Design Project (Sp). 2 Hours.**

Comprehensive engineering design project primarily related to environmental issues. Corequisite: CVEG 4243.

**CVEG 4822. Geotechnical Design Project (Fa). 2 Hours.**

Comprehensive engineering design project primarily related to geotechnical issues. Prerequisite: CVEG 4303 with a grade of C or better.

**CVEG 4832. Structural Design Project (Sp). 2 Hours.**

Comprehensive engineering design project primarily related to structural issues. Corequisite: CVEG 4323. Prerequisite: CVEG 4303 and CVEG 4313 with grades of C or better.

**CVEG 4842. Transportation Design Project (Fa). 2 Hours.**

Comprehensive engineering design project primarily related to transportation issues. Corequisite: CVEG 4423. Prerequisite: CVEG 2002 with a grade of C or better.

**CVEG 4863. Sustainability in Civil Engineering (Irregular). 3 Hours.**

Qualify and quantify the economic, environmental, societal, and engineering drivers behind sustainability in Civil Engineering. Justification of the feasibility and benefits of sustainability in environmental, geotechnical, structural, and transportation engineering through verbal and written communications. Prerequisite: Senior standing.

**CVEG 488V. Special Problems (Irregular). 1-6 Hour.**

Prerequisite: Senior standing. May be repeated for up to 6 hours of degree credit.

**CVEG 488VH. Honors Special Problems (Irregular). 1-6 Hour.**

Service Learning in Belize. Prerequisite: Senior standing. This course is equivalent to CVEG 488V.

**CVEG 4890. Fundamentals of Engineering Seminar (Sp, Fa). 0 Hours.**

Preparation for students taking the Fundamentals of Engineering (FE) examination, administered by the National Council of Examiners for Engineering and Surveying (NCEES). Concept review and problem-solving drills for topics covered on the FE-Civil examination. Prerequisite: Civil Engineering major and senior standing.

**CVEG 491VH. Honors Studies in Geotechnical Engineering (Irregular). 1-6 Hour.**

The study of advanced topics in the geotechnical engineering field. May include participation in geotechnical engineering courses normally available only to graduate students. Prerequisite: CVEG 3133 with a grade of C or better. May be repeated for up to 6 hours of degree credit.

**CVEG 492VH. Honors Studies in Environmental Engineering (Irregular). 1-6 Hour.**

The study of advanced topics in the environmental engineering field. May include participation in environmental engineering courses normally available only to graduate students. Prerequisite: CVEG 3243 with a grade of C or better. May be repeated for up to 6 hours of degree credit.

**CVEG 493VH. Honors Studies in Structural Engineering (Irregular). 1-6 Hour.**

The study of advanced topics in the structural engineering field. May include participation in structural engineering courses normally available only to graduate students. Prerequisite: CVEG 3304 with a grade of C or better. May be repeated for up to 6 hours of degree credit.

**CVEG 494VH. Honors Studies in Transportation Engineering (Irregular). 1-6 Hour.**

The study of advanced topics in the transportation engineering field. May include participation in transportation engineering courses normally available only to graduate students. Prerequisite: CVEG 3413 with a grade of C or better. May be repeated for up to 6 hours of degree credit.

**CVEG 4983H. Honors Undergraduate Thesis (Irregular). 3 Hours.**

Thesis research for civil engineering students enrolled in the honors college. Prerequisite: Honors College.

**CVEG 5100. Graduate Seminar in Civil Engineering (Sp, Fa). 0 Hours.**

A weekly seminar devoted to civil engineering research topics. Appropriate grade to be "S".

**CVEG 5113. Soil Dynamics (Irregular). 3 Hours.**

This course covers propagation of stress waves in elastic and inelastic materials, dynamic loading of soils, and stiffness and damping properties of soils. Use of field and laboratory techniques to determine shear wave velocity of soils. Also includes applications of dynamic soil properties in site stiffness characterization, geotechnical earthquake engineering, evaluation of ground improvement, and design of machine foundations. Prerequisite: CVEG 4143 with a grade of C or better.

**CVEG 5123. Measurement of Soil Properties (Irregular). 3 Hours.**

Consideration of basic principles involved in measuring properties of soils. Detailed analysis of standard and specialized soil testing procedures and equipment. Lecture 2 hours, laboratory 3 hours per week. Corequisite: Lab component. Prerequisite: CVEG 4143 with a grade of C or better.

**CVEG 5143. Transportation Soils Engineering (Irregular). 3 Hours.**

Advanced study of the properties of surficial soils; soil classification systems; pedology; soil occurrence and variability; subgrade evaluation procedures; repeated load behavior of soils; soil compaction and field control; soil stabilization; soil trafficability and subgrade stability for transportation facilities. Prerequisite: CVEG 3133 with a grade of C or better.

**CVEG 5163. Seepage and Consolidation (Irregular). 3 Hours.**

Investigation of the flow of water through soils and the time rate of compression of soils. Characterization of the hydraulic conductivity of soils in the field, seepage through earth dams, excavation cut-off walls, and other seepage control systems. Analytical and experimental investigations of soil volume change under hydraulic and mechanical loading. Design of earth and rock dams, well pumping, and vertical and radial consolidation in embankments. Prerequisite: CVEG 4143 with a grade of C or better.

**CVEG 5173. Advanced Foundations (Irregular). 3 Hours.**

Study of soil-supported structures. Topics include drilled piers, slope stability, pile groups, negative skin friction, foundation design from the standard penetration test and Dutch cone, and other specialized foundation design topics. Prerequisite: CVEG 4143 with a grade of C or better.

**CVEG 5183. Geo-Environmental Engineering (Irregular). 3 Hours.**

Study of the geotechnical aspects of waste containment systems and contaminant remediation applications. Analysis and measurement of flow of water and contaminants through saturated and unsaturated soils, clay mineralogy and soil-chemical compatibility, and mechanical and hydraulic behavior of geomembranes, geotextiles, and geosynthetic clay liners. Design and construction aspects of compacted clay and composite landfill liners, drainage systems, and landfill covers. Prerequisite: CVEG 3133 with a grade of C or better.

**CVEG 5193. Geotechnical Earthquake Engineering (Irregular). 3 Hours.**

This course covers stress wave propagation in soil and rock; influence of soil conditions on seismic ground motion characteristics; evaluation of site response using wave propagation techniques; liquefaction of soils; seismic response of earth structures and slopes. Prerequisite: CVEG 4143 with a grade of C or better.

**CVEG 5203. Water Chemistry (Sp). 3 Hours.**

This course provides a basis for applying principles of physical chemistry to understanding the composition of natural waters and to the engineering of water and wastewater treatment processes. Topics covered include chemical equilibrium (algebraic, graphical, and computer-aided solution techniques); acid-base equilibria and buffering; oxidation and reduction reactions; and solid precipitation and dissolution. Prerequisite: Graduate standing or CVEG 3243 and instructor approval.

**CVEG 5213. Water Treatment & Distribution System Design (Sp). 3 Hours.**

Design of industrial and municipal water treatment plants. Discussion of raw and treated water requirements for the several uses. Distribution system analysis and design including distribution storage and pumping. Prerequisite: CVEG 3243 with a grade of C or better.

**CVEG 5214. Advanced Wastewater Process Design and Analysis (Fa). 4 Hours.**

Application of advanced techniques for the analysis of wastewater treatment facilities. Physical, chemical and biological processes for removing suspended solids, organics, nitrogen, and phosphorus. Laboratory treatability studies will be used to develop design relationships. Lecture 3 hours, laboratory 3 hours per week. Corequisite: Lab component. Prerequisite: CVEG 4243 with a grade of C or better.

**CVEG 5233. Microbiology for Environmental Engineers (Irregular). 3 Hours.**

Fundamental and applied aspects of microbiology and biochemistry relating to water quality control, wastewater treatment, and stream pollution. Prerequisite: CVEG 3243 with a grade of C or better.

**CVEG 5243. Groundwater Hydrology (Irregular). 3 Hours.**

Detailed analysis of groundwater movement, well hydraulics, groundwater pollution and artificial recharge. Surface and subsurface investigations of groundwater and groundwater management, saline intrusion and groundwater modeling will be addressed. Prerequisite: CVEG 3223.

**CVEG 5273. Open Channel Flow (Irregular). 3 Hours.**

Open Channel Flow includes advanced open channel hydraulics, flow measurement techniques, a hydrology review, culvert and storm drainage facility design, natural channel classification (fluvial geomorphology) and rehabilitation, computer methods and environmental issues. Prerequisite: CVEG 3213 and CVEG 3223.

**CVEG 5293. Hazardous Waste Management (Irregular). 3 Hours.**

This graduate level course is formulated to provide students with theoretical and practical information on hazardous waste management from "cradle to grave". This includes hazardous waste generation, storage, transportation, treatment, disposal, and minimization strategies. This course emphasizes hazardous waste regulations and the physical, chemical, and biological technologies that can be used to manage these wastes and protect human health and the environment. Prerequisite: Graduate standing or instructor consent.

**CVEG 5303. Theory of Stability (Irregular). 3 Hours.**

Study of structural members subjected to compression. Analysis of compression members considering support conditions and within frame configurations. Analysis of beams considering lateral torsional buckling. AISC Steel Manual strength equations related to columns and beams are derived and discussed. Prerequisite: Graduate standing.

**CVEG 5313. Matrix Analysis of Structures (Irregular). 3 Hours.**

Energy and digital computer techniques of structural analysis as applied to conventional forms, space trusses, and frames. Prerequisite: CVEG 3304 with a grade of C or better.

**CVEG 5323. Structural Dynamics (Irregular). 3 Hours.**

Dynamics response of single and multidegree of freedom systems. Modal analysis. Response spectra. Computer programs for dynamic analysis. Design considerations for structures subjected to time-varying forces including earthquake, wind, and blast loads. Prerequisite: CVEG 3303 with a grade of C or better.

**CVEG 5333. Concrete Materials (Irregular). 3 Hours.**

Topics include portland cement production, supplementary cementing materials, fresh and hardened concrete properties, mixture proportioning, chemical admixtures, curing, and specialty concretes. Corequisite: Lab component. Prerequisite: CVEG 4303 with a grade of C or better.

**CVEG 5343. Highway Bridges (Irregular). 3 Hours.**

Economics of spans, current design and construction specifications, comparative designs. Possible refinements in design techniques and improved utilization of materials. Prerequisite: CVEG 4313 and CVEG 4303 with grades of C or better.

**CVEG 5353. Prestressed Concrete Design (Irregular). 3 Hours.**

Analysis and design of prestressed concrete beams. Topics include flexural analysis, prestress bond, draping and debonding, allowable stresses, shear analysis and design, camber prediction, and prestress losses. Prerequisite: CVEG 4303 with a grade of C or better.

**CVEG 5363. Advanced Topics in Reinforced Concrete (Irregular). 3 Hours.**

Analysis and design of reinforced concrete members. Topics include slender columns, one-way and two-way slab design, strut and tie design, and torsion. Prerequisite: CVEG 4303 with a grade of C or better.

**CVEG 5373. Advanced Structural Steel Design (Irregular). 3 Hours.**

Design of structural steel components using the Load and Resistance Factor Design method. Intensive treatment of simple and eccentric connections, composite construction, plate girders, and plastic analysis and design. Prerequisite: CVEG 4313 with a grade of C or better.

**CVEG 5383. Finite Element Methods in Civil Engineering (Irregular). 3 Hours.**

An understanding of the fundamentals of the finite element method and its application to structural configurations too complicated to be analyzed without computer applications. Application to other areas of civil engineering analysis and design such as soil mechanics, foundations, fluid flow, and flow through porous media. Prerequisite: Graduate standing.

**CVEG 5393. Advanced Strength of Materials (Irregular). 3 Hours.**

The course will continue from the basic material addressed in the undergraduate course and investigate in more detail stress analysis as it pertains to civil engineering type problems. Topics addressed in the course will include stress analysis (two-dimensional), constitutive relationships, solutions for two-dimensional problems, flexure, torsion, beams on elastic foundations, and energy methods. Prerequisite: CVEG 2015 or MEEG 3013 with a grade of C or better.

**CVEG 5403. Advanced Reinforced Concrete II (Irregular). 3 Hours.**

Design of circular and rectangular reinforced concrete tanks for fluid and granular loads. Prerequisite: CVEG 4303 with a grade of C or better.

**CVEG 5413. Transportation and Land Development (Irregular). 3 Hours.**

Study of interaction between land development and the transportation network. Application of planning, design, and operational techniques to manage land development impacts upon the transportation system, and to integrate land layout with transportation network layout. Prerequisite: Graduate standing.

**CVEG 5423. Structural Design of Pavement Systems (Irregular). 3 Hours.**

An introduction to the structural design of pavement systems including: survey of current design procedures; study of rigid pavement jointing and reinforcement practices; examination of the behavioral characteristics of pavement materials and of rigid and flexible pavement systems; introduction to structural analysis theories and to pavement management concepts. Prerequisite: CVEG 4433 with a grade of C or better.

**CVEG 5433. Traffic Engineering (Irregular). 3 Hours.**

A study of both the underlying theory and the use of traffic control devices (signs, traffic signals, pavement markings), and relationships to improved traffic flow and safety, driver and vehicle characteristics, geometric design, and societal concerns. Also includes methods to collect, analyze, and use traffic data. Prerequisite: CVEG 3413 with a grade of C or better or graduate standing.

**CVEG 5463. Transportation Modeling (Irregular). 3 Hours.**

The use of mathematical techniques and/or computer software to model significant transportation system attributes. May compare model results with actual measured traffic attributes, using existing data sources and/or collecting and analyzing field data. Pre- or Corequisite: Lab component. Prerequisite: Graduate standing.

**CVEG 5473. Transportation System Characteristics (Irregular). 3 Hours.**

Introduction to traffic flow theory, including traffic stream interactions and capacity. Applications for planning, design, operations. Prerequisite: CVEG 3413 with a grade of C or better and graduate standing.

**CVEG 5483. Transportation Management Systems (Irregular). 3 Hours.**

Six transportation management systems are explored: pavement, bridge, intermodal, public transportation, safety, and congestion. System approaches are presented. Techniques are introduced on how to optimally allocate resources. Pavement and bridge structure basics are discussed and their performance parameters are presented. Case studies are used to illustrate the interfaces among various modes of transportation. Safety and congestion problems in transportation are addressed.

**CVEG 562V. Research (Sp, Su, Fa). 1-6 Hour.**

Fundamental and applied research. Prerequisite: Graduate standing.

**CVEG 563V. Special Problems (Irregular). 1-6 Hour.**

Special problems in CVEG. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

**CVEG 5863. Fundamentals of Sustainability in Civil Engineering (Irregular). 3 Hours.**

Qualify and quantify the economic, environmental, societal and engineering drivers behind sustainability in Civil Engineering. Justification of the feasibility and benefits of sustainability in environmental, geotechnical, structural and transportation through verbal and written communications. Students cannot receive credit for both CVEG 4863 and CVEG 5863. Prerequisite: Graduate standing or instructor consent.

**CVEG 5953. Fundamentals of Fracture and Fatigue in Structures (Fa). 3 Hours.**

The course will cover the concepts of linear-elastic, elastic-plastic and time-dependent Fracture Mechanics as applied to fracture in a variety of materials, structures, and operating conditions. The examples will include fracture in large components such as aircraft, bridges and pressure vessels and also in bones and in soft materials and human tissue. Prerequisite: Graduate standing in Civil, Mechanical or Biomedical Engineering or consent of the instructor. This course is cross-listed with BMEG 5953, MEEG 5953.

**CVEG 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Master's Thesis. Prerequisite: Graduate standing. May be repeated for degree credit.

**CVEG 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Doctoral Dissertation. Prerequisite: Candidacy. May be repeated for degree credit.

## Classical Studies (CLST) Courses

**CLST 1003. Introduction to Classical Studies: Greece (Odd years, Fa). 3 Hours.**

An introduction to the world of Ancient Greece, from the Trojan War to Alexander the Great. Progresses chronologically, focusing on the literary, artistic, political, and philosophical ideas of the Greeks. Who were they and how are we like them?.

**CLST 1003H. Honors Introduction to Classical Studies: Greece (Odd years, Fa). 3 Hours.**

Prerequisite: Honors candidacy.

This course is equivalent to CLST 1003.

**CLST 1013. Introduction to Classical Studies: Rome (Even years, Sp). 3 Hours.**

A multi-faceted introduction to Roman culture, focusing on the literature, philosophy, architecture, history, art and archeology. Source material to be read in English. Lectures liberally illustrated with slides.

**CLST 1013H. Honors Introduction to Classical Studies: Rome (Even years, Sp). 3 Hours.**

This course is equivalent to CLST 1013.

**CLST 2323. Greek and Roman Mythology (Irregular). 3 Hours.**

A study of the stories, figures, and motifs in the mythology of Greece and Rome.  
Prerequisite: ENGL 1013 and ENGL 1023.

**CLST 3003. Special Topics in Classical Studies (Irregular). 3 Hours.**

Close examination of subject matter not presented in regularly offered CLST courses. May be repeated for different topics. May be repeated for up to 9 hours of degree credit.

**CLST 3003H. Honors Special Topics in Classical Studies (Irregular). 3 Hours.**

Close examination of subject matter not presented in regularly offered CLST courses. May be repeated for different topics. Prerequisite: Honors standing. May be repeated for up to 9 hours of degree credit.

**CLST 399VH. Honors Course Classical Studies (Irregular). 1-6 Hour.**

Prerequisite: Junior standing. May be repeated for up to 12 hours of degree credit.

**CLST 4003H. Honors Classical Studies Colloquium (Sp). 3 Hours.**

Covers a special topic or issue in classical studies. Appropriate for honors program students and students pursuing classical studies. May be repeated when the content is changed. Prerequisite: Junior standing. May be repeated for up to 9 hours of degree credit.

## Communication (COMM)

### Courses

**COMM 1003. Basic Course in the Arts: Film Lecture (Sp, Su, Fa). 3 Hours.**

Introduction to film as entertainment and art. How to look at film through a study of composition, lighting, editing, sound and acting. Lectures and viewing time.

**COMM 1003H. Honors Basic Course in the Arts: Film Lecture (Sp, Su, Fa). 3 Hours.**

Introduction of film as entertainment and art. How to look at a film through a study of composition, lighting, editing, sound and acting. Lectures and viewing time.  
Corequisite: Drill component.

This course is equivalent to COMM 1003.

**COMM 1023. Communication in a Diverse World (Sp, Fa). 3 Hours.**

Introductory course that focuses on the skills and understandings associated with competent communication in a diverse society within interpersonal, group, organizational and intercultural communication contexts.

**COMM 1023H. Honors Communication in a Diverse World (Sp, Fa). 3 Hours.**

Introductory course that focuses on the skills and understandings associated with competent communication in a diverse society within interpersonal, group, organizational and intercultural communication contexts.

This course is equivalent to COMM 1023.

**COMM 1233. Media, Community and Citizenship (Sp, Fa). 3 Hours.**

Examines theory and research on how messages are processed, meanings constructed, communities formed and maintained through interaction with the media. Focus is on critical citizenship and media literacy in the context of the cognitive, social, cultural, political, and economic consequences of increasingly networked media systems.

**COMM 1233H. Honors Media, Community and Citizenship (Sp, Fa). 3 Hours.**

Examines theory and research on how messages are processed, meanings constructed, communities formed and maintained through interaction with the media. Focus is on critical citizenship and media literacy in the context of the cognitive, social, cultural, political, and economic consequences of increasingly networked media systems. Prerequisite: Honors standing.

This course is equivalent to COMM 1233.

**COMM 1313. Public Speaking (ACTS Equivalency = SPCH 1003) (Sp, Su, Fa). 3 Hours.**

Application of the communication techniques needed to organize and deliver oral messages in a public setting. Emphasis given to theory and practice of message strategies and preparation, audience analysis, presentational skills including multimedia support, speech criticism, and the listening process.

**COMM 1313H. Honors Public Speaking (Sp, Su, Fa). 3 Hours.**

Application of the communication techniques needed to organize and deliver oral messages in a public setting. Emphasis given to theory and practice of message strategies and preparation, audience analysis, presentational skills including multimedia support, speech criticism, and the listening process.  
This course is equivalent to COMM 1313.

**COMM 2303. Advanced Public Speaking (Sp, Su, Fa). 3 Hours.**

Continuing study of the invention and adaptation of oral discourse to the needs of listeners. Consideration of the problems of communication in platform presentation.  
Prerequisite: COMM 1313.

**COMM 2323. Interpersonal Communication (Sp, Su, Fa). 3 Hours.**

Personal and interpersonal factors affecting communication in everyday life. Emphasis upon ways in which interpersonal perception, physical environment, semantic choices, and nonverbal cues affect communication primarily in the context of work, family, and other personal experiences.

**COMM 2333. Introduction to Communication Research (Sp, Fa). 3 Hours.**

Introduction to the basic assumptions underlying communication inquiry; resources for and methods of data collection in communication research; and techniques for organization, interpretation, reporting, and evaluation of communication research.

**COMM 2343. Introduction to Small-Group Communication (Sp, Su, Fa). 3 Hours.**

An introduction to procedures used in exchanging information, solving problems, determining policies, and resolving differences in committees and other small groups. Prerequisite: COMM 1313.

**COMM 2613. Nonverbal Communication (Irregular). 3 Hours.**

Creates an understanding of the functions of nonverbal cues operating in human communication processes and develops familiarity with recent research in the field of nonverbal communication. Prerequisite: COMM 1023.

**COMM 2813. Introduction to Electronic Media (Fa). 3 Hours.**

Introduction to the industries centered around electronic media, including radio, broadcast and cable television, telephony, computer information systems, and digital media. Emphasis on the historical development, organizational patterns, and cultural functions of the media.

**COMM 298V. Topics in Communication (Irregular). 1-3 Hour.**

Topics in communication not represented in other lower division courses.  
Prerequisite: Completion of at least 3 hours of COMM coursework.

**COMM 3143. Language and Expressive Culture (Irregular). 3 Hours.**

This course explores the complex interrelationship of language, culture, and social identity. Verbal art and expressive culture are examined from a variety of anthropological perspectives. Topics include ethnographies of speaking, discourse analysis, cultural performances, and the performative aspects of oral expression.  
This course is cross-listed with ANTH 3143, ENGL 3143.

**COMM 3173. Introduction to Linguistics (Irregular). 3 Hours.**

Introduction to language study with stress upon modern linguistic theory and analysis. Data drawn from various languages reveal linguistic universals as well as phonological, syntactic, and semantic systems of individual languages. Related topics: language history, dialectology, language and its relation to culture and society, and the history of linguistic scholarship. Prerequisite: Junior standing.  
This course is cross-listed with ANTH 3173, ENGL 3173, WLLC 3173.

**COMM 3263. African Americans in Film (Irregular). 3 Hours.**

A survey of the history of images of African Americans in film, especially as these images are examined in the context of stereotypical renditions and/or realistic representations of African American experiences. Issues of African American history, culture, and socio-political context will be addressed in the analyses of these films. Prerequisite: ENGL 1023, COMM 1003, and junior or senior standing. This course is cross-listed with AAST 3263, ENGL 3263, JOUR 3263.

**COMM 3273. African Americans in Documentary Film (Sp). 3 Hours.**

Exploration of the African-American image and experience in the context of time, historical record and varying production viewpoints from diverse documentarians. African-American history, culture and socio-political context are addressed in the analyses of these documentary films from the perspectives of mainstream media, independent filmmakers and minority documentarians Prerequisite: Junior or senior standing. This course is cross-listed with JOUR 3273, AAST 3273.

**COMM 3333. Communication Criticism (Irregular). 3 Hours.**

Basic elements and theoretical perspectives on criticism of public communication. Extensive practice in written analysis of events in public address, film, television, and other mass media. Prerequisite: COMM 1233.

**COMM 3343. Contemporary Communication Theory (Sp). 3 Hours.**

Study of the nature of the communication process as it is reflected in the individual, in interpersonal settings, in one-to-many situations, and in the mass media. Prerequisite: COMM 1023 and COMM 2333 or permission of instructor.

**COMM 3353. Argumentation: Reason in Communication (Fa). 3 Hours.**

Concepts characterizing rational discourse, with a concern for examining validity and fallacy. Consider traditional and contemporary models for analyzing argument, including an examination of the philosophy of argument and a practical inquiry into the uses of argument in contemporary rhetorical discourse. Prerequisite: COMM 1313.

**COMM 3373. Leadership Communication (Irregular). 3 Hours.**

An analysis of leadership as a discursive process, focusing on how leadership emerges and is enacted on a daily basis through communication-related behaviors. Prerequisite: COMM 1023 or permission of instructor.

**COMM 3383. Persuasion (Sp, Su, Fa). 3 Hours.**

Introduction to theories of persuasion with emphasis on application and effect. Prerequisite: COMM 1313.

**COMM 3423. Science Fiction Film (Sp, Fa). 3 Hours.**

This class concentrates on how science fiction in various communication media influences and is, in turn, influenced by broad features of cultural life. The class considers the impact of science fiction on science fact, the military, space travel, religion, race, gender, social class, education, politics, technology, and fashion styles. Prerequisite: COMM 1003 and COMM 1233.

**COMM 3433. Family Communication (Fa). 3 Hours.**

Study of the nature, functions, and management of communication patterns in the family. Focus is on understanding routine interpersonal interactions, conflict patterns, authority structures, and decision-making processes within the context of the contemporary family. Prerequisite: COMM 2323.

**COMM 3443. Introduction to Rhetorical Theory (Fa). 3 Hours.**

Interpretive-critical study of rhetoric in public contexts. Prerequisite: COMM 1313.

**COMM 3503. Popular Communication and Culture (Su). 3 Hours.**

This course is an introduction to basic theories and topics of Popular Communication and Culture studies. The course will emphasize understanding popular media communication forms. Prerequisite: COMM 1023 and COMM 1233.

**COMM 3673. Mediated Communication (Fa). 3 Hours.**

Focuses on media messages and their social/cultural effects. Includes a critical examination of media institutions and the ways they vie for audiences. Other topics include the ways people construct meaning from messages, media's influence on attitudes, media's role in cultural life, and audiences as critical consumers of media. Prerequisite: COMM 1233.

**COMM 3703. Organizational Communication (Fa). 3 Hours.**

An introduction to the theory, processes, and management of communication in organizations, with opportunities for simulated application. Prerequisite: COMM 1023 and COMM 1313.

**COMM 3763. Health Communication (Fa). 3 Hours.**

Examines communication within health care organizations and teams. Issues may include patient-provider communication, communication among health care professionals, negative consequences of poor communication in health care delivery, and the use of technology in health-related information dissemination and campaigns. Prerequisite: COMM 1023.

**COMM 3803. Survey of Social Media (Odd years, Sp). 3 Hours.**

Surveys research on social media, focusing on the potential cognitive, social, cultural, political, and/or economic consequences of social media and on strategies for engaging with and through social media to promote personal, social and civic goals. Pre- or Corequisite: COMM 1233.

**COMM 3883. Rhetoric of Social Movements (Irregular). 3 Hours.**

Study of the functions of rhetoric as it appears in the context of social movements such as American independence, women's equality, civil rights, populism, and new conservatism. Prerequisite: COMM 1313.

**COMM 3923H. Honors Colloquium (Irregular). 3 Hours.**

Treats a special topic or issue, offered as part of the honors program. Prerequisite: Honors candidacy (not restricted to candidacy in communication). May be repeated for degree credit.

**COMM 3983. Special Topics (Sp, Su, Fa). 3 Hours.**

Communication topics which are not usually presented in depth in regular courses. Prerequisite: At least 3 hours of COMM coursework. May be repeated for degree credit.

**COMM 3991H. Honors Course in Communication Research (Sp, Fa). 1 Hour.**

The Honors Course in Communication is the student's first step toward developing an honors thesis project. The course is designed to facilitate the exploration of potential thesis topics, selection of a viable study for the thesis, and the conceptualization of that study. Prerequisite: Honors candidacy.

**COMM 4113. Legal Communication (Irregular). 3 Hours.**

Examines communication processes in the legal environment and focuses on communication skills and behaviors among judges, attorneys, litigants, and jurors. Particular attention will be given to verbal strategies and nonverbal messages related to interviews, negotiation, mediation, and litigation and to the rhetorical functions of legal pleadings and judicial opinions. Prerequisite: COMM 1313 or permission of instructor.

**COMM 4133. Media and the Family (Fa). 3 Hours.**

This course is designed to examine our culture's images, definitions, and ideas regarding family and domestic life. This examination involves a critical analysis of media messages regarding families, as well as an in-depth exploration of media's roles in daily domestic life. Prerequisite: COMM 1233 and COMM 2813.

**COMM 4143. American Film Survey (Fa). 3 Hours.**

A survey of major American film genres, major directors and films that have influenced the development of motion pictures. Prerequisite: COMM 1003 or permission of instructor. This course is cross-listed with ENGL 4143.



**COMM 4283. Communication in Contemporary Society (Irregular). 3 Hours.**

An examination of research and theory on the process and effects of communication in modern society. Prerequisite: COMM 1023 and COMM 1233 or permission of instructor.

**COMM 4313. Language and Society of Japan (Fa). 3 Hours.**

The primary objective of this course is to investigate the way the Japanese language reflects the beliefs and customs of the Japanese people as a social group. For comparison purposes, this course makes reference to studies in American language and culture. Proficiency in Japanese not required. Prerequisite: Junior standing.

**COMM 4323. Communication and Conflict (Fa). 3 Hours.**

Study of the processes, effects, and managements of communicative conflict, including a consideration of conflict styles, power, goals, tactics, assessment, self-intervention and third-party intervention. Prerequisite: COMM 1023 or COMM 1313 or permission of instructor.

**COMM 4333. Communication and Gender (Fa). 3 Hours.**

Study of the nature, construction, functions, and effects of gender and gender-role stereotypes related to verbal and nonverbal communication, small-group and organizational interaction, and mass mediated images in contemporary culture. Prerequisite: COMM 2323 or permission of instructor.

**COMM 4343. Intercultural Communication (Sp). 3 Hours.**

Study of intercultural communication skills, intercultural issues and their impact at home and abroad, and cross-cultural comparisons of communication phenomena from a variety of theoretical perspectives. Prerequisite: COMM 1023 or COMM 1233.

**COMM 4353. American Public Address (Irregular). 3 Hours.**

Historical and critical study of the leading American speakers, their speeches, the issues with which they were identified. Lectures, discussion, reports, and critical papers. Prerequisite: Junior standing.

**COMM 4363. Gender, Race and Power (Irregular). 3 Hours.**

Examines how communication shapes gender, race, sexuality, and power. Rather than focusing exclusively on interpersonal communication, this course looks at theories of power that shape institutional macro communication. This course is cross-listed with GNST 4363.

**COMM 4373. Political Communication (Even years, Sp). 3 Hours.**

Study of the nature and function of the communication process as it operates in the political environment. This course is cross-listed with PLSC 4373.

**COMM 4383. Rhetoric of the Modern American Presidency (Irregular). 3 Hours.**

A study of the increasing reliance of contemporary presidents on public persuasion through rhetorical discourse.

**COMM 4393. Freedom of Speech: Cases & Issues (Fa). 3 Hours.**

Study of philosophy, cases, and issues relevant to the first amendment right to the free expression, with focus on issues relevant to internal security, obscenity, pornography, slander, and the regulation of communication. Prerequisite: COMM 1313 and COMM 2333.

**COMM 4613. Rhetoric of American Women (Fa). 3 Hours.**

Examines the social and cultural assumptions that have limited the role of women in public communication. Focus is on the rhetorical biographies of selected women and their arguments on important social and political issues. Prerequisite: At least 6 hours of communication courses.

**COMM 4623. Relational Communication (Sp). 3 Hours.**

Review of the major theories and concepts in a relational approach to interpersonal communication. Provides exposure to a sampling of the research findings in relational communication. Prerequisite: COMM 2323 or permission of instructor.

**COMM 4633. History and Development of International Film I (Irregular). 3 Hours.**

A critical survey of international film as a distinctive art form and as a medium of expression and communication with attention given to films and cinema from its origins to 1975. Prerequisite: COMM 1003.

**COMM 4643. Environmental Communication (Sp). 3 Hours.**

Explores how communication is used by individuals, corporations, and governments to shape public debates about environmental issues. Topics include rhetorical strategies, the public's right to information and input, dispute resolution techniques, advocacy campaigns, and green marketing. Prerequisite: COMM 1233 and COMM 1313 and COMM 2333 or permission of instructor.

**COMM 4653. International Film II (Irregular). 3 Hours.**

A critical survey of international film as a distinctive art form as a medium of expression and communication with attention given to films and cinema from 1976 to the present. Prerequisite: COMM 1003.

**COMM 4683. Documentary Film (Fa). 3 Hours.**

A study and analysis of the documentary film as a discrete film form and as an important contribution to the international cinematic scene. Prerequisite: Advanced standing. Prerequisite: COMM 1003.

**COMM 4733. Reel Women (Fa). 3 Hours.**

An examination of films made for, about, and/or by women with the aim of better understanding and centralizing issues pertinent to women's daily lives. Prerequisite: COMM 1003.

This course is cross-listed with GNST 4733.

**COMM 4743. Representational Issues in Film (Sp). 3 Hours.**

An examination of the varying ways that race and ethnicity, gender, sexual orientation, gender identity, class, (dis)ability, and age are represented in and by film - both historically and culturally. Prerequisite: COMM 1003. This course is cross-listed with GNST 4743.

**COMM 4763. Health Communication Campaigns (Odd years, Sp). 3 Hours.**

Canvasses the theoretical frameworks used in the conceptualization of communication campaigns focused on health information dissemination and the purposes these campaigns serve. Students participate in a service learning project by defining campaign goals; identifying, segmenting, and assessing target audiences; and designing messages for multi-mediated health campaigns. Prerequisite: COMM 1023.

**COMM 4773. Treatment of Native Americans in Film (Irregular). 3 Hours.**

This course compares the treatment of Native Americans in film with how representatives of this group identify themselves. Particular attention is paid to how motion pictures focusing on Native Americans produced by indigenous filmmakers compare to treatments of this people produced by Hollywood and others. Prerequisite: COMM 1003.

**COMM 4803. Seminar in Social Media (Even years, Sp). 3 Hours.**

This class encourages in depth examination of contemporary theory and research on the potential effects of social media on cognitive, social, cultural, political, affective, and economic structures. Focus is on critical thinking and contextualization of social media. Pre- or Corequisite: COMM 1233.

**COMM 4823. Children and Media (Sp). 3 Hours.**

An in-depth examination of children's use of media and the effects of media content on child and adolescent development. Topics may include violence and sex in media, commercialism, and new media.

**COMM 4843. Computer-Mediated Communication (Sp). 3 Hours.**

Provides an in depth consideration of the nature of computer-mediated communication by examining its use and effects in interpersonal, work, educational, and societal contexts.

**COMM 4853. Telecommunication Policy (Irregular). 3 Hours.**

Research and discussion of social, ethical, education, cultural, and technological aspects of telecommunications with attention given to changing programming patterns, world systems of broadcasting, data transmission, emerging technology, international politics, and regulatory policies. Prerequisite: COMM 2813 or permission of instructor.

**COMM 4863. Seminar in Media (Sp). 3 Hours.**

Research/discussion of contemporary issues in media. Emphasis on the economic and social impact of advertising, news, censorship, programs directed toward children, portrayals of women and minorities, future trends in media technologies, and analysis of the changing media landscape. Prerequisite: COMM 1233 or permission of instructor.

**COMM 4883. Television and American Culture (Fa). 3 Hours.**

Historical and critical study of how television shapes American culture and is shaped by it. Attention will be given to the study of television history, programs and audiences; particularly how race and gender shape content and reception of programming. Prerequisite: COMM 1233 and COMM 2813.

**COMM 490V. Special Problems (Sp, Fa). 1-6 Hour.**

Credit arranged. Prerequisite: COMM 2333 and at least 9 hours of COMM coursework. May be repeated for up to 6 hours of degree credit.

**COMM 4913. Internship in Communication (Sp, Su, Fa). 3 Hours.**

Internship in applied communication within public and private organizations. Prerequisite: Junior standing and completion of 18 hours in communication courses. May be repeated for up to 6 hours of degree credit.

**COMM 499VH. Honors Thesis (Sp, Su, Fa). 1-3 Hour.**

Honors thesis under the direction of a faculty member in the Department of Communication. Pre- or Corequisite: COMM 3991H. Prerequisite: Honors standing. May be repeated for up to 6 hours of degree credit.

**COMM 5111. Colloquium in Communication Research (Sp, Fa). 1 Hour.**

Presentation, evaluation, and discussion of research proposals or on-going research projects. Graduate students are required to register for this course each semester of residence. May be repeated for degree credit.

**COMM 5113. Historical and Legal Methods in Communication (Fa). 3 Hours.**

Emphasizes the assumptions and procedures of historical and legal research methods in communication. May be repeated for up to 3 hours of degree credit.

**COMM 5123. Quantitative Research Methods in Communication (Fa). 3 Hours.**

Emphasizes the assumptions and procedures of social scientific research methods in communication.

**COMM 5133. Media Processes & Effects (Fa). 3 Hours.**

Introduction to scholarly research and theory in media processes and effects. Particular attention will be devoted to the impact of media messages on individuals and societies. Emphasis will be placed on the construction and development of theory.

**COMM 5143. Ethnographic Methods in Communication (Fa). 3 Hours.**

This class focuses upon the fieldwork procedures and narrative writing strategies that comprise the methods of ethnographic research in communication. Students conduct fieldwork requiring in-depth interpersonal contact with members of a group or culture, and practice narrative writing skills.

**COMM 5163. Introduction to Communication Paradigms (Fa). 3 Hours.**

Introduces the variety of modes of inquiry used in communication. Reviews the field's history and boundaries. Explores contemporary communication research.

**COMM 5173. Qualitative Methods in Communication (Sp). 3 Hours.**

Emphasizes the assumptions and procedures of qualitative research methods in the examination of human communication behavior.

**COMM 5183. Interpretive Research Methods in Communication (Sp). 3 Hours.**

Examines various perspectives used to analyze and critique various texts (e.g., media programming, speeches).

**COMM 5193. Seminar in Communication (Sp, Su, Fa). 3 Hours.**

Research, discussion, and papers focus on one of a variety of communication topics including symbolic processes in communication, philosophy of rhetoric, communication education, criticism of contemporary communication, interpersonal communication, organizational communication, and contemporary applications of rhetoric. Maximum credit is 9 semester hours. Prerequisite: Graduate standing. May be repeated for up to 3 hours of degree credit.

**COMM 5303. Seminar in Rhetorical Theory (Even years, Fa). 3 Hours.**

Humanistic theories of communication and rhetoric with emphasis upon the development of rhetorical theory in the classical world and upon contributions of contemporary theorists. Prerequisite: Graduate standing.

**COMM 5323. Seminar in Persuasion (Fa). 3 Hours.**

Focus is on comparing theoretical accounts of persuasion and research evidence concerning the effects of various factors on persuasion.

**COMM 5333. Interpersonal Communication Theory (Even years, Fa). 3 Hours.**

Survey of the theoretical orientations in interpersonal communication with primary focus on conceptual, philosophical and research issues.

**COMM 5343. Interpersonal Communication (Fa). 3 Hours.**

Theory and research concerning the exchange of information and the mutual influencing of behavior among people. Prerequisite: Graduate standing.

**COMM 5353. Rhetorical Criticism (Irregular). 3 Hours.**

A seminar in rhetorical criticism. A study of the development of standards of rhetorical appraisal from the foundations of the art of speaking to the modern period; examination of contemporary approaches to rhetorical appraisal and practice in critical analysis of contemporary address.

**COMM 5363. Seminar in Small Group Communication (Su). 3 Hours.**

A consideration of recent developments in small group research which relate to problem solving tasks, leadership and other kinds of human interaction through speech communication. Emphasis given to the interpersonal speech transaction and to the emergence of participant roles. Prerequisite: COMM 2343.

This course is cross-listed with SOCI 5363.

**COMM 5373. Content Analysis (Irregular). 3 Hours.**

Techniques for observing and analyzing the overt communication behavior of selected communicators. Prerequisite: Graduate standing.

**COMM 5383. Seminar in Political Communication (Irregular). 3 Hours.**

Research seminar focusing on selected topics such as candidate imagery, diffusion of political information, or political symbolism. Prerequisite: Graduate standing.

This course is cross-listed with PLSC 5383.

**COMM 5403. Organizational Communication Theory (Irregular). 3 Hours.**

A seminar on the historical development of theory and research into communication processes occurring within an organizational setting. Lecture, discussion, oral and written reports. Prerequisite: Graduate standing.

**COMM 5413. Organizational Communication Research (Su). 3 Hours.**

A seminar on conducting applied research within an organizational setting. Prerequisite: COMM 5403 and graduate standing.

**COMM 5423. Seminar in Mass Media Cognition (Even years, Sp). 3 Hours.**

Seminar exploring how people learn from written, aural and visual mass media messages. Topics to include attention, memory, comprehension, emotional response, arousal, unconscious processing, picture perception and person perception. Seminar will be concerned with most popular media (e.g., television radio, newspaper, and film), and with several content genres (e.g., entertainment, news, advertising).

**COMM 5433. Marital Communication (Irregular). 3 Hours.**

An exploration of the major theories and lines of research that examine marital communication in contemporary American life.

**COMM 5443. Issues of Race and Gender in Interpersonal Communication (Odd years, Sp). 3 Hours.**

An exploration of the major theories and lines of research that examine how race and gender influence interpersonal communication in everyday life in America.

**COMM 5453. Myth and Communication Criticism (Irregular). 3 Hours.**

Seminar in major theories of mythology, including archetypal and ideological perspectives, and their applications to the criticism of public communicative events. Practice in written critical analysis. Prerequisite: Graduate standing.

**COMM 5463. Descriptive Linguistics (Fa). 3 Hours.**

A scientific study of language with primary emphasis on modern linguistic theory and analysis. Topics include phonology, morphology, syntax, semantics, language acquisition, and historical development of world languages.

This course is cross-listed with WLLC 5463, ANTH 5473, ENGL 5463.

**COMM 5503. Communication and Cultural Studies (Fa). 3 Hours.**

Examinations of the role of communication in modern culture. Emphasis is upon the production and circulation of meanings with society, and special attention is given to the role of popular and mass media in this process. Prerequisite: Graduate standing.

**COMM 5513. Sustainability and Communication (Even years, Fa). 3 Hours.**

Communication's role in creating and conveying an organization's environmental sustainability philosophy and initiatives. Discusses internal communication when establishing and communicating sustainability goals and initiatives. Covers communicating sustainability to external groups through websites, sustainability reports, and advocacy initiatives. For profit, nonprofit, governmental, NGOs, and/or advocacy organizations discussed.

**COMM 5533. Family Communication (Even years, Fa). 3 Hours.**

An exploration of the major theories and lines of research that examine family communication in contemporary American life.

**COMM 569V. Seminar in Film Studies (Irregular). 1-3 Hour.**

Research, discussion; papers on a variety of film genres and areas including the new American film, the science-fiction film, directors, film comedy, the experimental film, criticism, and the film musical. May be repeated for up to 6 hours of degree credit.

This course is cross-listed with ENGL 569V.

**COMM 5763. Health Communication (Irregular). 3 Hours.**

Examines the difficulties of effective communication between health care providers and recipients including the following: issues of social support, conveying bad news, cultural issues, and identifying relevant communication skills associated with effective health care provision. Explores medical education models for training in effective patient-provider communication.

**COMM 590V. Special Problems (Sp, Su, Fa). 1-6 Hour.**

Credit by arrangement. Prerequisite: Graduate standing. May be repeated for degree credit.

**COMM 5913. Internship in Communication (Sp, Su, Fa). 3 Hours.**

Internship in applied communication within public and private organizations. Prerequisite: 15 hours graduate level communication in residence.

**COMM 5923. Capstone Course in Communication (Sp, Su, Fa). 3 Hours.**

Students organize and synthesize knowledge developed throughout their graduate coursework into a tangible capstone product which becomes part of their professional portfolio.

**COMM 5993. Readings in Cultural Studies (Irregular). 3 Hours.**

Classic and current theoretical approaches to cultural studies. Subject matter changes depending on student interest and faculty expertise.

**COMM 600V. Master's Thesis (Sp, Fa). 1-6 Hour.**

Master's Thesis. Prerequisite: Graduate standing. May be repeated for degree credit.

## Communication Disorders (CDIS) Courses

**CDIS 2253. Introduction to Communicative Disorders (Sp, Fa). 3 Hours.**

An introductory course which surveys the professional interests of speech-language pathology and audiology with specific attention to the general recognition and classification of disorders of speech, language, and hearing, and general trends in rehabilitation. Consideration given to the classroom teacher's involvement in communication disorders.

**CDIS 2901H. Honors Introduction to Research in Communication Sciences and Disorders (Sp). 1 Hour.**

This course introduces students to the research process in the field of communication sciences and disorders. Prerequisite: Acceptance into the COEHP Honors Program and instructor consent. May be repeated for up to 2 hours of degree credit.

**CDIS 3103. Introduction to Audiology (Fa). 3 Hours.**

Introduction to the basic concepts for administering and interpreting hearing tests, including the anatomy and physiology of the auditory system, disorders of the ear, and techniques for administering and interpreting basic pure tone threshold tests. Prerequisite or Corequisite: PHYS 1023 and PHYS 1021L, PHYS 2013 and PHYS 2011L or CHEM 1073 and CHEM 1071L.

**CDIS 3124. Normal Phonology and Articulatory Process (Fa). 4 Hours.**

Analysis of the English speech sounds as a basis for speech improvement; physiological positions and movements; acoustic qualities and transcription in the international phonetic alphabet. Corequisite: Lab component.

**CDIS 3203. Articulation Disorders (Sp). 3 Hours.**

A study of the definition, etiology, pathology, and treatment procedures of problems of articulation. Prerequisite: CDIS 3124 and CDIS 3213.

**CDIS 3213. Anatomy of Physiology of the Speech and Hearing Mechanisms (Fa). 3 Hours.**

Structure and function of the organic mechanisms responsible for speech, language, and audition. Pre or Corequisite: BIOL 1543 and BIOL 1541L or higher.

**CDIS 3224. Language Development in Children (Fa). 4 Hours.**

Study of the nature of language behavior and of the typical development of speech and language functions for communicative purposes, with primary emphasis on the preschool and early school-age child. Corequisite: Lab component. Pre or Corequisite: PSYC 2003.

**CDIS 3224H. Honors Language Development in Children (Fa). 4 Hours.**

Study of the nature of language behavior and of the typical development of speech and language functions for communicative purposes, with primary emphasis on the preschool and early school-age child. Corequisite: Lab component. Pre- or Corequisite: PSYC 2003. Prerequisite: Honors candidacy. This course is equivalent to CDIS 3224.

**CDIS 3233. Introduction to Clinical Practice (Sp). 3 Hours.**

An introduction to the various aspects of clinical operations including technical and interpersonal relationship skills necessary for case management and a survey of professional standards. Pre- or Corequisite: COMM 1313.

**CDIS 3901H. Honors Communication Disorders Thesis Tutorial (Sp, Su, Fa). 1 Hour.**

Designed to provide the foundation for the Honors Thesis/Project. Students and faculty tutors work "one-on-one" exploring a specific topic which has been agreed upon by the student and the professor. Prerequisite: Honors candidacy.

**CDIS 3923H. Honors Colloquium (Irregular). 3 Hours.**

Treats a special topic or issue, offered as part of the honors program. Prerequisite: Honors candidacy (not restricted to candidacy in speech or dramatic art). May be repeated for degree credit.

**CDIS 399VH. Honors Course (Irregular). 1-6 Hour.**

Prerequisite: Junior standing. May be repeated for up to 12 hours of degree credit.

**CDIS 4001. Clinical Practicum Undergrad (Sp, Fa). 1 Hour.**

Entry-level training in speech-language clinical practicum activities. This course is taken for satisfactory or unsatisfactory credit. Prerequisite: CDIS 3124 and CDIS 3203 and CDIS 3224 and CDIS 3233 plus satisfactory completion of specific program requirements for admission to clinical practice.

**CDIS 4103. Sign Language and Deafness (Sp, Su, Fa). 3 Hours.**

An introduction to American Sign Language (ASL) and the Deaf Community that uses it. This class will study expressive and sign language skills using ASL vocabulary, structure and grammar. The Deaf Community will be studied through videotapes and readings. Issues in Deaf Education will also be introduced.

**CDIS 4133. Introduction to Aural Rehabilitation (Sp). 3 Hours.**

Study of the technique used in the rehabilitation of speech and language problems of the hearing impaired including the role of amplification, auditory training, and speech reading in rehabilitation. Prerequisite: CDIS 3103.

**CDIS 4183. Clinical Assessment of Speech and Language Disorders (Sp). 3 Hours.**

Study of the basic diagnostic procedures used in speech-language pathology. Emphasis is placed on the clinical processes of assessment, including criteria for test selection, techniques in test administration, and interpretation of test. Pre- or Corequisite: Prior coursework in CDIS and ANTH 1023.

**CDIS 4213. Introduction to Speech and Hearing Science (Sp). 3 Hours.**

Study of the acoustic structure of oral speech and the auditory skills underlying speech perception. Pre- or Corequisite: MATH 1203 or higher. Prerequisite: CDIS 3203, CDIS 3213, CDIS 3124 and its lab component.

**CDIS 4223. Language Disorders in Children (Sp). 3 Hours.**

Study of disorders of language acquisition and usage in children and adolescents, with emphasis upon the nature, assessment, and treatment of such disorders. Prerequisite: CDIS 3224.

**CDIS 4253. Neurological Bases of Communication (Fa). 3 Hours.**

A study of the structures and functions of the central and peripheral nervous systems as they relate to human speech, language, and cognition. Prerequisite: CDIS 3213.

**CDIS 4263. Advanced Audiology (Fa). 3 Hours.**

Study of the basic techniques used in audiological assessment of children and adults, including pure tone audiometry, speech audiometry, and special tests of hearing function. Prerequisite: CDIS 3103.

**CDIS 4273. Communication Behavior and Aging (Fa). 3 Hours.**

Study of the effects upon communication of normal aspects of the aging process, from early adulthood throughout the lifespan. Changes in speech, language, and hearing functioning are identified; common alterations in communicative disorders commonly associated with advanced age are discussed.

**CDIS 490V. Special Problems (Sp, Su, Fa). 1-3 Hour.**

Prerequisite: Advanced standing. May be repeated for up to 3 hours of degree credit.

**CDIS 498VH. Honors Communication Disorders Thesis/Project (Sp, Su, Fa). 1-3 Hour.**

Designed to provide facilitation of the Honors Thesis/Project. Students and faculty work "one-on-one" to complete the honors thesis/project. Prerequisite: Honors candidacy and CDIS 3901H. May be repeated for up to 3 hours of degree credit.

**CDIS 5102. Research Methodology in Communication Disorders (Su). 2 Hours.**

An examination of methods of research in speech-language pathology and audiology and of the use of bibliographic tools. Focuses on purposes and problems of various forms of communication disorders research, procedures and instruments employed, and reporting of research. Prerequisite: Graduate standing.

**CDIS 5112. Seminar in Early Intervention (Sp). 2 Hours.**

Study of a family-centered, transdisciplinary approach to early intervention with infants and toddlers at-risk for communication disorders. Topics include early communication development, service delivery in a family context, coordination with other disciplines, and legislation mandating services. Prerequisite: CDIS 3224 or equivalent, and graduate standing.

**CDIS 5121L. Feeding and Swallowing Disorders Lab (Fa). 1 Hour.**

Observation and interpretation of techniques used for assessment and remediation of feeding and swallowing disorders in children and adults. Corequisite: CDIS 5122. Prerequisite: CDIS 3213 and graduate standing.

**CDIS 5122. Feeding and Swallowing Disorders (Fa). 2 Hours.**

Study of the etiology, assessment, and remediation of feeding and swallowing disorders in children and adults. Prerequisite: CDIS 3213 or equivalent, and graduate standing.

**CDIS 5133. Discourse Analysis and Treatment (Fa). 3 Hours.**

Study of discourse behaviors and discourse analysis procedures appropriate for communicatively disordered children and adults, along with review of management approaches associated with impaired discourse performance. Prerequisite: Previous course work in language process and disorders, and graduate standing.

**CDIS 5143. Cognitive-Communication Development and Disorders (Fa). 3 Hours.**

Study of normal cognitive development, the role of communication in this development, and shifts that may occur in conjunction with various speech, language and/or hearing disorders. Prerequisite: CDIS 3224.

**CDIS 5152. TBI and Right-Hemisphere Disorders (Irregular). 2 Hours.**

Study of the speech and language disorders commonly resulting from traumatic brain injury and right hemisphere disorders. Prerequisite: CDIS 4253 or equivalent, and graduate standing.

**CDIS 5163. Seminar in Language Topics (Irregular). 3 Hours.**

Study of selected topics in normal and disordered language acquisition and/or language use. Implications of current research are reviewed and applied to evaluation and management of language impairment(s). Prerequisite: Graduate standing.

**CDIS 5193. Seminar in Problems of Oral Communication (Sp, Su, Fa). 3 Hours.**

Investigation of research in selected problems of oral communication; recent developments in speech-language pathology and audiology; individual problems for investigation. Prerequisite: Graduate standing.

**CDIS 5214. Voice and Resonance Disorders (Su). 4 Hours.**

Study of disorders of phonation and resonance, including etiologies, diagnosis, and intervention strategies. Prerequisite: Graduate standing.

**CDIS 5222. Fluency Disorders (Fa). 2 Hours.**

Speech disfluency, including theoretical etiological assumptions and management consideration. Prerequisite: Graduate standing.

**CDIS 5232. Seminar in Misarticulation (Sp). 2 Hours.**

Etiology, diagnosis and treatment of disorders of speech articulation. Prerequisite: Graduate standing.

**CDIS 5243. Language Disorders in Adults (Sp). 3 Hours.**

Cognitive and communicative breakdown due to neurological trauma, including etiology, characteristics, assessment and treatment for aphasia, traumatic brain injury, and right hemisphere disorders. Prerequisite: Graduate standing.

**CDIS 5253. Motor Speech Disorders (Sp). 3 Hours.**

Study of motor speech production disorders related to damage to central or peripheral nervous system motor centers and pathways. Cerebral palsy, adult dysarthria, apraxia, and dysphagia are emphasized. Both theoretical and treatment considerations are addressed. Prerequisite: CDIS 4253 or equivalent, and graduate standing.

**CDIS 5273. Language, Learning and Literacy (Su). 3 Hours.**

An examination of language-based literacy skills, including consideration of development, disorders, assessment and intervention.

**CDIS 528V. ADV CP: Speech-Language (Sp, Su, Fa). 1-6 Hour.****CDIS 5293. Augmentative and Alternative Communication (Fa). 3 Hours.**

Approaches to communication management with the severely and profoundly handicapped child or adult, with primary emphasis on augmentative and alternative communication assessment and intervention. Prerequisite: Graduate standing.

**CDIS 5381. Diagnostic Practicum (Sp, Su, Fa). 1 Hour.**

Practicum activities in speech-language assessment. Prerequisite: Graduate standing.

**CDIS 5391. Clinical Practicum: Hearing Disorders (Sp, Su, Fa). 1 Hour.**

Practicum in audiology.

**CDIS 548V. Off-Campus Practicum: Public School Site (Sp, Fa). 1-6 Hour.**

Practicum activities in speech-language disorders in a public school setting. Prerequisite: Graduate standing.

**CDIS 558V. Internship: Clinical Site (Sp, Su, Fa). 3-6 Hour.**

Field placement in approved clinical setting for clock hours in speech-language pathology assessment and treatment. Students in the master's program must enroll in a minimum of 3 credit hours of CDIS 558V or CDIS 578V during their last semester of graduate studies. Prerequisite: Graduate standing; Completion of one semester of either CDIS 548V or CDIS 568V. May be repeated for up to 6 hours of degree credit.

**CDIS 568V. Off-Campus Practicum: Clinical Site (Sp, Su, Fa). 1-6 Hour.**

Practicum activities in speech-language disorders in an off-campus clinical site. Prerequisite: Graduate standing and completion of at least 2 semesters of CDIS 528V.

**CDIS 578V. Internship: Public School Site (Sp, Su, Fa). 3-6 Hour.**

Field placement in approved public school setting for clock hours in speech-language pathology assessment and treatment. Students in the Master's program must enroll in a minimum of 3 credit hours of CDIS 578V or CDIS 558V during their last semester of graduate studies. Prerequisite: Graduate standing; Completion of one semester of either CDIS 548V or CDIS 568V. May be repeated for up to 6 hours of degree credit.

**CDIS 590V. Special Problems (Sp, Su, Fa). 1-6 Hour.**

Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

**CDIS 599V. Seminar in Professional Issues (Sp, Fa). 1-3 Hour.**

Selected topics in professional issues in speech-language pathology and audiology.

**CDIS 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Master's Thesis. Prerequisite: Graduate standing. May be repeated for degree credit.

**CDIS 699V. Seminar in Communication Sciences and Disorders (Irregular). 1-6 Hour.**

Discussion of pertinent topics and issues in the discipline of communication sciences and disorders. Prerequisite: Advanced graduate standing. May be repeated for up to 18 hours of degree credit.

## Community Health Promotion (CHLP)

### Faculty

**Bart Hammig**, Associate Professor

**Leah Jean Henry**, Associate Professor

**Ches Jones**, Professor

**Kristen N. Jozkowski**, Associate Professor

**Heather D. Vinti**, Assistant Professor

## Courses

**CHLP 310V. Health Coaches I (Sp, Fa). 1-3 Hour.**

This course, designed for students whose career goals are focused on community/healthcare service, is a study of key issues concerning community health care, aimed at developing practical approaches to supporting patients. Students study the medical, social, cultural, and economic challenges as well as opportunities that exist within evolving health care systems, and consider how these forces, in addition to behavioral and psychological factors, affect health outcomes of individual patients. Obstacles to effective health care as well as strategies for enabling at-risk patients to play more active roles in promoting their health and well-being are key issues. This course provides students with the academic foundation for the field-based Health Coaches II and III.

**CHLP 320V. Health Coaches II (Sp, Su, Fa). 1-3 Hour.**

Health Coaches II is the field-based second course in the three-course Health Coaches sequence. Health Coaches will become engaged in the processes of educating and motivating identified at risk patients to take an active and meaningful role in their health and well-being. Students are required to make scheduled visits to their assigned patients' homes, potentially attend doctor appointments with the patient, engage in phone interactions with patients and the healthcare team as needed, and meet face-to-face weekly with the care coordination healthcare team to discuss patient experiences and strategies for optimizing healthcare outcomes for individual patients. Prerequisite: CHLP 310V. May be repeated for up to 3 hours of degree credit.

**CHLP 330V. Health Coaches III (Sp, Su, Fa). 1-3 Hour.**

Health Coaches III is the field-based third course in the three-course Health Coaches sequence. Health Coaches will continue to be engaged in the processes of educating and motivating identified at risk patients to take an active and meaningful role in their health and well-being through scheduled visits to their assigned patients' homes or by phone, potentially attending doctor appointments with the patient, and participating in face-to-face weekly with the care coordination healthcare team to discuss patient experiences and strategies for optimizing healthcare outcomes for individual patients. In addition, students at this level will provide leadership within student care teams and provide community outreach under the direction of the professional healthcare team. Prerequisite: CHLP 310V and CHLP 320V. May be repeated for up to 3 hours of degree credit.

## Computer Science and Computer Engineering (CSCE)

### Courses

**CSCE 2004. Programming Foundations I (Sp, Fa). 4 Hours.**

Introductory programming course for students majoring in computer science or computer engineering. Software development process: problem specification, program design, implementation, testing and documentation. Programming topics: data representation, conditional and iterative statements, functions, arrays, strings, file I/O and classes. Using C++ in a UNIX environment. Corequisite: Lab component. Prerequisite: MATH 2554 or MATH 2554C with a grade of C or better.

**CSCE 2014. Programming Foundations II (Sp, Fa). 4 Hours.**

This course continues developing problem solving techniques by focusing on fundamental data structures and associated algorithms. Topics include: abstract data types, introduction to object-oriented programming, linked lists, stacks, queues, hash tables, binary trees, graphs, recursion, and searching and sorting algorithms. Using C++ in a UNIX environment. Corequisite: Lab component. Prerequisite: CSCE 2004 with a grade of C or better.

**CSCE 2114. Digital Design (Sp, Fa). 4 Hours.**

Introduction to the hardware aspects of digital computers, logic gates, flip-flops, reduction, finite state machines, sequential logic design, digital systems, software design tools, hardware description language (VHDL), and implementation technologies. Corequisite: Lab component. Prerequisite: MATH 2554 or MATH 2554C with a grade of C or better.

This course is cross-listed with ELEG 2904.

**CSCE 2214. Computer Organization (Sp, Fa). 4 Hours.**

Presents the relationship between computing hardware and software with a focus on the concepts for current computers. CPU design topics are covered including various techniques for microprocessor design and performance evaluation. Corequisite: Lab component. Prerequisite: CSCE 2114 with a grade of C or better.

**CSCE 3193. Programming Paradigms (Sp, Fa). 3 Hours.**

Programming in different paradigms with emphasis on object oriented programming and network programming. Survey of programming languages, event driven programming, and concurrency. Prerequisite: CSCE 2014 with a grade of C or better.

**CSCE 3193H. Honors Programming Paradigms (Fa). 3 Hours.**

Programming in different paradigms with emphasis on object oriented programming and network programming. Survey of programming languages, event driven programming, and concurrency. Prerequisite: CSCE 2014 with a grade of C or better.

This course is equivalent to CSCE 3193.

**CSCE 3213. Cluster Computing (Irregular). 3 Hours.**

Cluster computing solves problems too large in terms of memory or run time for a single workstation. Common approaches to these problems combine the resources of multiple computers to collectively find the solution. High performance computing is quickly expanding to areas including: chemistry, physics, mathematics, engineering, bio-informatics, finance, logistics, etc.

**CSCE 3513. Software Engineering (Sp, Fa). 3 Hours.**

A modern approach to the current techniques used in software design and development. This course emphasizes the use of modern software development tools, multi-module programming, and team design and engineering. Prerequisite: CSCE 3193 or CSCE 3193H with a grade of C or better.

**CSCE 3613. Operating Systems (Sp, Fa). 3 Hours.**

An introduction to operating systems including topics in system structures, process management, storage management, files, distributed systems, and case studies. Prerequisite: CSCE 2014 and CSCE 2214, each with a grade of C or better.

**CSCE 3613H. Honors Operating Systems (Sp). 3 Hours.**

An introduction to operating systems including topics in system structures, process management, storage management, files, distributed systems, and case studies. Prerequisite: CSCE 2014 and CSCE 2214, each with a grade of C or better. This course is equivalent to CSCE 3613.

**CSCE 3953. System Synthesis and Modeling (Fa). 3 Hours.**

This course instructs the students in the use of modern synthesis and modeling languages and approaches for design automation. This course will teach students the use of HDLs and modeling languages for representing and implementing digital computer systems. Prerequisite: CSCE 2214 with a grade of C or better.

**CSCE 4013. Special Topics (Irregular). 3 Hours.**

Consideration of computer science topics not covered in other courses. Prerequisite: CSCE 3193 and CSCE 2214. May be repeated for up to 12 hours of degree credit.

**CSCE 4023H. Honors Special Topics (Irregular). 3 Hours.**

Consideration of current computer engineering honors topics not covered in other courses. Prerequisite: Honors standing.

**CSCE 4043. RFID Information Systems Security (Irregular). 3 Hours.**

Radio frequency identification (RFID) information systems provide information to users about objects with RFID tags. They require the application of information systems security (INFOSEC) to protect the information from tampering, unauthorized information disclosure, and denial of service to authorized users. This course addresses security and privacy in an RFID system. Prerequisite: INEG 2313.

**CSCE 4114. Embedded Systems (Fa). 4 Hours.**

The architecture, software, and hardware of embedded systems. Involves a mixture of hardware and software for the control of a system (including electrical, electro-mechanical, and electro-chemical systems). They are found in a variety of products including cars, VCRs, HDTVs, cell phones, pacemakers, spacecraft, missile systems, and robots for factory automation. Corequisite: Lab component. Prerequisite: CSCE 2214 with a grade of C or better.

**CSCE 4123. Programming Challenges (Irregular). 3 Hours.**

This course studies the principle methods used in the solution of programming contest problems, e.g., data structures strings, sorting, machine arithmetic and algebra, combinatorics, number theory, backtracking, graph traversal, graph algorithms, dynamic programming, grids, and computational geometry. Prerequisite: CSCE 2014.

**CSCE 4133. Algorithms (Fa). 3 Hours.**

Provides an introduction to formal techniques for analyzing the complexity of algorithms. The course surveys important classes of algorithms used in computer science and engineering. Prerequisite: CSCE 3193 and (MATH 2603 or MATH 2803) or MATH 3423.

**CSCE 4213. Computer Architecture (Sp). 3 Hours.**

The architecture of modern scalar and parallel computing systems. Techniques for dynamic instruction scheduling, branch prediction, instruction level parallelism, shared and distributed memory multiprocessor systems, array processors, and memory hierarchies. Prerequisite: CSCE 2214 with a grade of C or better. This course is cross-listed with ELEG 4983.

**CSCE 4233. Low Power Digital Systems (Irregular). 3 Hours.**

The reduction of power consumption is rapidly becoming one of the key issues in digital system design. Traditionally, digital system design has mainly focused on performance and area trade-offs. This course will provide a thorough introduction to digital design for lower consumption at the circuit, logic, and architectural level. Prerequisite: CSCE 2214 with a grade of C or better.

**CSCE 4253. Concurrent Computing (Irregular). 3 Hours.**

Programming concurrent processes; computer interconnection network topologies; loosely coupled and tightly coupled paralleled computer architectures; designing algorithms for concurrency; distributed computer architectures. Prerequisite: CSCE 3193.

**CSCE 4263. Advanced Data Structures (Irregular). 3 Hours.**

This course continues the study of data structures, algorithmic analysis for these data structures, and their efficient implementation to support standard library in programming languages. Topics include: AVL trees, Red-Black trees, Splay trees, Optimal Binary Search trees, 2-3 tree, 2-3-4 tree, B-trees, Segment trees, Leftist Heaps, Binomial Heaps, Fibonacci Heap, Disjoint Set, Hashing, and big integer with hundreds to thousands of digits. Prerequisite: CSCE 3193.

**CSCE 4323. Formal Languages and Computability (Sp). 3 Hours.**

Finite Automata and regular languages, regular expressions, context-free languages and pushdown automata, nondeterminism, grammars, and Turing machines. Church's thesis, halting problem, and undecidability. Prerequisite: CSCE 4133.

**CSCE 4333. Introduction to Integrated Circuit Design (Fa). 3 Hours.**

Design and layout of large scale digital integrated circuits using CMOS technology. Topics include MOS devices and basic circuits, integrated circuit layout and fabrication, dynamic logic, circuit design and layout strategies for large scale CMOS circuits. Students may not receive credit for both CSCE 4333 and CSCE 5223. Prerequisite: ELEG 3214 or ELEG 3933 and MATH 2584.

**CSCE 4353. CPLD/FPGA-Based System Design (Irregular). 3 Hours.**

Field Programmable Logic devices (FPGAs/CPLDs) have become extremely popular as basic building blocks for digital systems. They offer a general architecture that users can customize by inducing permanent or reversible physical changes. This course will deal with the implementation of logic options using these devices.

Prerequisite: CSCE 2214 with a grade of C or better.

This course is cross-listed with ELEG 4963.

**CSCE 4423. Computer Systems Modeling (Irregular). 3 Hours.**

Basic concepts of problem analysis, model design, and simulation experiments. A simulation will be introduced and used in this course. Prerequisite: CSCE 2014 with a grade of C or better and INEG 2313.

**CSCE 4433. Cryptography (Irregular). 3 Hours.**

This course provides a general introduction to modern cryptography. Topics include: stream ciphers, block ciphers, message authentication codes, public key encryption, key exchange, and signature schemes. Prerequisite: CSCE 2014 with a grade of C or better and (MATH 2603 or MATH 2803).

**CSCE 4523. Database Management Systems (Sp). 3 Hours.**

Introduction to database management systems, architecture, storage structures, indexing, relational data model, E-R diagrams, query languages, SQL, ODBC, transaction management, integrity, and security. Prerequisite: CSCE 3193 or CSCE 3193H.

**CSCE 4543. Software Architecture (Irregular). 3 Hours.**

A study of software architecture through the use of case studies drawn from real systems designed to solve real problems from technical as well as managerial perspectives. Techniques for designing, building, and evaluating software architectures. Prerequisite: CSCE 4133 and CSCE 3513.

**CSCE 4561. Capstone I (Fa). 1 Hour.**

CSCE students complete a comprehensive software capstone project during their final year of undergraduate studies. The project is done over 2 semesters in phases: concept, formal proposal, implementation, and presentation. The projects include and may require the integration of software and human factors and hardware elements and are developed to software engineering methodologies. Prerequisite: CSCE 3513 and (CSCE 3613 or CSCE 3613H) and completion of 96 credit hours.

**CSCE 4613. Artificial Intelligence (Irregular). 3 Hours.**

Introduction to intelligent agents, AI languages, search, first order logic, knowledge representation, ontologies, problem solving, natural language processing, machine vision, machine learning, and robotics. Prerequisite: CSCE 2014 with a grade of C or better.

**CSCE 4623. Mobile Programming (Irregular). 3 Hours.**

An introduction to software development on mobile devices. The major topics covered in this course include underlying concepts and principles in mobile programming, as well as hands-on programming experience on mobile devices with an emphasis on smartphones. Prerequisite: CSCE 3193 or CSCE 3193H.

**CSCE 4643. Graphics Processing Units Programming (Irregular). 3 Hours.**

This course provides an introduction to massively parallel programming using Graphics Processing Units (GPUs). Topics include basic programming model, GPU thread hierarchy, GPU memory architecture, and performance optimization techniques and parallel patterns needed to develop real-life applications. Prerequisite: CSCE 2014 with a grade of C or better.

**CSCE 4753. Computer Networks (Irregular). 3 Hours.**

This course is an introductory course on computer networks. Using the Internet as a vehicle, this course introduces underlying concepts and principles of modern computer networks, with emphasis on protocols, architectures, and implementation issues. Prerequisite: INEG 2313.

**CSCE 4813. Computer Graphics (Irregular). 3 Hours.**

Introduction to the theory and algorithms used in computer graphics systems and applications. Topics include: 2D and 3D geometric models (points, lines, polygons, surfaces), affine transformations (rotation, translation, scaling), viewpoint calculation (clipping, projection), lighting models (light-material interactions, illumination and shadow calculation). Students will implement their own graphics pipeline to demonstrate many of these techniques. Higher level computer graphics applications will be created using OpenGL. Prerequisite: CSCE 2014 with a grade of C or better.

**CSCE 4853. Information Security (Irregular). 3 Hours.**

This course covers principles, mechanisms, and policies governing confidentiality, integrity, and availability of digital information. Topics to be covered include security concepts and mechanisms, security policies, multilevel security models, system vulnerability, threat and risk assessment, basic cryptography and its applications, intrusion detection systems. Prerequisite: CSCE 3193 or CSCE 3193H.

**CSCE 490V. Individual Study (Irregular). 1-3 Hour.**

Individual study directed by faculty in current research topics, state of the art, or advanced methodology in one of the major computer science or computer engineering areas. May be repeated for up to 3 hours of degree credit.

**CSCE 4914. Advanced Digital Design (Irregular). 4 Hours.**

To master advanced logic design concepts, including the design and testing of synchronous and asynchronous combinational and sequential circuits using state of the art CAD tools. Corequisite: Lab component. Prerequisite: CSCE 2114 or ELEG 2904.

This course is cross-listed with ELEG 4914.

**CSCE 491VH. Honors Thesis (Sp, Fa). 1-3 Hour.**

To provide honors students with experience in presenting their research accomplishments to their peers and faculty. Prerequisite: Honors standing. May be repeated for up to 3 hours of degree credit.

**CSCE 4963. Capstone II (Sp). 3 Hours.**

CSCE students complete a comprehensive capstone project during their final year of undergraduate studies. The project is done over two consecutive semesters in phases: concepts, formal proposal, implementation, and presentation. The projects include and may require the integration of software, human factors, and hardware elements and are developed using software engineering methodologies. Prerequisite: CSCE 4561.

**CSCE 5013. Advanced Special Topics in Computer Science or Computer Engineering (Irregular). 3 Hours.**

Consideration of current computer engineering or computer science topics not covered in other courses. May be repeated for up to 18 hours of degree credit.

**CSCE 5033. Advanced Algorithms (Irregular). 3 Hours.**

Design of computer algorithms, with primary emphasis on the development of efficient implementation.

**CSCE 5043. Advanced Artificial Intelligence (Irregular). 3 Hours.**

In-depth introduction to AI. Topics include: philosophical foundations, cognition, intelligent agents, AI languages, search, genetic algorithms, first order and modal logic, inference, resolution, knowledge representation, ontologies, problem solving, planning, expert systems, uncertainty, probabilistic reasoning, fuzzy logic, machine learning, natural language processing, machine vision, and robotics. Prerequisite: CSCE 4613.

**CSCE 5053. Advanced Virtual Worlds (Irregular). 3 Hours.**

In depth study of 3D multi-user virtual worlds covering application domains like retail and healthcare logistics, simulations, training, and gaming as well as platform architectures. Students will apply their knowledge of programming and data structures while using synthetic worlds to explore, model and script future smart worlds where computing is pervasive.

**CSCE 5063. Machine Learning (Irregular). 3 Hours.**

An introduction to machine learning, with particular emphasis on neural network techniques. This course presents the basic principles underlying algorithms that improve with experience, and covers using them effectively for modeling data and making predictions.

**CSCE 5073. Data Mining (Irregular). 3 Hours.**

This course surveys the most common methods used in data mining and machine learning. It involves several projects in which students will implement tools that are useful for mining knowledge from data and making predictions. The course will study both heuristic algorithms and statistical techniques. Prerequisite: CSCE 3193 and (INEG 2313 or STAT 3013).

**CSCE 5203. Advanced Database Systems (Irregular). 3 Hours.**

Topics include: object databases, distributed databases, XML query, data warehouses, network as database systems, peer-peer data sharing architectures, data grids, data mining, logic foundations, semantic databases, spatial and temporal databases, and knowledge bases. Prerequisite: CSCE 4523 and graduate standing.

**CSCE 5213. Bioinformatics (Irregular). 3 Hours.**

Application of algorithmic techniques to the analysis and solution of biological problems. Topics include an introduction to molecular biology and recombinant DNA technology, biological sequence comparison, and phylogenetics, as well as topics of current interest. Prerequisite: Instructor consent.

This course is cross-listed with BENG 5213.

**CSCE 5223. Introduction to Integrated Circuit Design (Fa). 3 Hours.**

Design and layout of large scale digital integrated circuits using CMOS technology. Topics include MOS devices and basic circuits, integrated circuit layout and fabrication, dynamic logic, circuit design, and layout strategies for large scale CMOS circuits. Students may not receive credit for both CSCE 4333 and CSCE 5223. Prerequisite: ELEG 3214 or ELEG 3933 and MATH 2584.

**CSCE 5253L. Integrated Circuit Design Laboratory I (Irregular). 3 Hours.**

Design and layout of large scale digital integrated circuits. Students design, check and simulate digital integrated circuits which will be fabricated, and tested in I.C. Design Laboratory II. Topics include computer aided design, circuit timing, and wire delay. Prerequisite: CSCE 4333.

This course is cross-listed with ELEG 5253L.

**CSCE 5263. Computational Complexity (Irregular). 3 Hours.**

Turing machines, recursion theory and computability, complexity measures, NP-completeness, analysis on NP-complete problems, pseudo-polynomial and approximation.

**CSCE 5273. Big Data Analytics and Management (Irregular). 3 Hours.**

Topics include principles of distributed data computing and management, design and implementation of non-relational data systems, crowd sourcing and human computation, big data analytics and scalable machine learning, real-time streaming data analysis, and social aware computing. Prerequisite: CSCE 3193 and INEG 2313.

**CSCE 5283. Graph and Combinatorial Algorithms (Irregular). 3 Hours.**

A study of algorithms for graphs and combinatorics with special attention to computer implementation and runtime efficiency.

**CSCE 5313. Advanced Operating Systems (Irregular). 3 Hours.**

Concurrent processes and process communication; mutual exclusion and synchronization principles; kernel philosophy; resource allocation and deadlock; and case studies of specific operating systems. Prerequisite: CSCE 3613.

**CSCE 5323. Computer Security (Irregular). 3 Hours.**

Study of a broad selection of contemporary issues in computer security. Topics include access control, security policies, authentication methods, secure system design, and information assurance. Prerequisite: CSCE 3613.

**CSCE 5333. Computer Forensics (Irregular). 3 Hours.**

Various methods for identification, preservation, and extraction of electronic evidence at a computer crime scene. Specific topics include auditing and investigation of network and host intrusions, computer forensics tools, resources for system administrators and information security officers, legal issues related to computer and network forensics. Prerequisite: CSCE 5323.

**CSCE 5343. Advanced Software Engineering (Irregular). 3 Hours.**

This course is about software metrics and models. It will focus on quantitative methods and techniques for management of software projects, design of software systems, and improvement of software quality. The material covered will be metrics and models used in the software lifecycle, such as software requirements metrics, design metrics, implementation metrics, testing metrics, effort estimation model. Prerequisite: CSCE 3513.

**CSCE 5363L. Integrated Circuit Design Laboratory II (Irregular). 3 Hours.**

Students test the I.C. chips they designed in I.C. Design Laboratory I, and propose design corrections where needed. Topics include bipolar chip design, gate arrays, BICMOS, memory design, design for testability, and dynamic & domino logic. Prerequisite: CSCE 5253L.

This course is cross-listed with ELEG 5263L.

**CSCE 5433. Advanced Cryptography (Irregular). 3 Hours.**

This course provides an in-depth look into some facet of either cryptographic theory or the implementation of cryptography. Topics may include: the discrete logarithm problem, integer factorization, information theory, elliptic curves, lattices, pseudorandom number generators, zero-knowledge proofs, and quantum cryptography. Prerequisite: CSCE 4433 or instructor consent.

**CSCE 5533. Advanced Information Retrieval (Irregular). 3 Hours.**

Study of the architecture, implementation, and evaluation of current information retrieval systems. Students will apply their knowledge of programming and data structures to implement a large system with an emphasis on efficiency and scalability. They will study current research in the field and implement individual or group projects on advanced topics.

**CSCE 5543. Statistical Natural Language Processing (Irregular). 3 Hours.**

Introduction to statistical natural language processing (NLP). Covers the theory and algorithms needed for building NLP tools, provides broad coverage of mathematical and linguistic foundations, and detailed discussion of statistical methods for text mining and information extraction. Current research and applications of statistical NLP will be discussed. Prerequisite: CSCE 2014 and (STAT 3013 or INEG 2313).

**CSCE 5633. Network Performance Evaluation (Irregular). 3 Hours.**

A study of performance modeling tools for telecommunication networks, computer networks, and wireless networks. Prerequisite: STAT 3013.

**CSCE 5643. Computer Communications Networks (Irregular). 3 Hours.**

A study of computer communication networks, including the data link layer, routing, flow-control, local area networks, TCP/IP, ATM, B-ISDN, queuing analysis, and recent developments in computer communications.

**CSCE 5653. Network Security (Irregular). 3 Hours.**

This course introduces security and secrecy in a networked environment. It is intended to familiarize students with the elements of secure communication, and how they inter-relate to provide secure networks in public and private settings.

**CSCE 5663. Database Security (Irregular). 3 Hours.**

This is an advanced course covering security issues in database systems. Topics to be covered include discretionary and mandatory access control policies, multilevel secure database systems, auditing, data recovery, database intrusion detection, database insider threat, etc. Prerequisite: CSCE 4523.



**CSCE 5683. Image Processing (Irregular). 3 Hours.**

The objective of this class is to give students a hands-on introduction to the fundamentals of image processing. A variety of image processing techniques and applications will be discussed including image enhancement, noise removal, spatial domain and frequency domain filtering, image restoration, color image processing, image compression, edge detection and image segmentation. Prerequisite: CSCE 4813.

**CSCE 5703. Computer Vision (Irregular). 3 Hours.**

The objective of this course is to give students a hands-on introduction to the fundamentals of computer vision. Topics include image formation, object modeling, image processing, feature and edge detection, image segmentation, motion estimation, depth from stereo, shape description and object recognition. Prerequisite: CSCE 4813 or CSCE 5683.

**CSCE 5823. Multiprocessor Systems on Chip (Irregular). 3 Hours.**

This course covers the latest trends in advanced computer architecture for multiprocessor systems on chip for embedded and real time systems. Topics covered include multicore architectures, modeling abstractions, run time systems, and MIMD/SIMD heterogeneous architectures, Hw/Sw co-design techniques. Prerequisite: CSCE 3613 and CSCE 4213.

**CSCE 5843. Reconfigurable Computing (Irregular). 3 Hours.**

This course will cover emerging and proposed techniques and issues in Reconfigurable Computing. Topics will include FPGA technologies, CAD/CAE tools, Hw/Sw co-design, system level synthesis, programming models and abstractions. Prerequisite: CSCE 4213 and CSCE 3613.

**CSCE 590V. Advanced Individual Study (Irregular). 1-3 Hour.**

Advanced graduate level individual study directed by faculty in current research topics, state of the art, or advanced methodology in one of the major computer science or computer engineering areas.

**CSCE 5943. Computer Arithmetic Circuits (Irregular). 3 Hours.**

Examination of fundamental principles of algorithms for performing arithmetic operations in computers. This course provides sufficient theoretical and practical information to prepare the digital design engineer with an awareness of basic techniques for the realization of arithmetic circuits.

**CSCE 5983. Application Specific Integrated Circuit Design (Irregular). 3 Hours.**

ASIC design is taught with emphasis on industrial preparation. Topics include ASIC technologies, design entry, simulation, and synthesis. Advanced design methods and techniques are studied for cell based and gate array ASICs. Prerequisite: CSCE 4213.

**CSCE 610V. Master's Thesis (Sp, Fa). 1-6 Hour.****CSCE 620V. Post-Master's Research (Sp, Fa). 1-18 Hour.****CSCE 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Doctoral Dissertation. May be repeated for degree credit.

## Counselor Education (CNED) Courses

**CNED 1002. Life Skills Development (Fa). 2 Hours.**

Study and practice of problem solving, decision making, goals and values clarification and other developmental skills affecting personal issues and academic success. Prerequisite: Instructor consent required.

**CNED 1011. Seminar (Sp, Fa). 1 Hour.**

Single topic seminar focusing on further knowledge acquisition and training in specific developmental skills. Topics offered as needed. Prerequisite: Instructor consent required. May be repeated for up to 3 hours of degree credit.

**CNED 3053. The Helping Relationship (Sp, Fa). 3 Hours.**

Development of an understanding of the helping relationship. Topics include establishing a working alliance, problem recognition and referral to appropriate resources. Prerequisite: PSYC 2003.

**CNED 3053H. Honors The Helping Relationship (Sp, Fa). 3 Hours.**

Development of an understanding of the helping relationship. Topics include establishing a working alliance, problem recognition and referral to appropriate resources. Prerequisite: PSYC 2003.

This course is equivalent to CNED 3053.

**CNED 4003. Classroom Human Relations Skills (Sp, Fa). 3 Hours.**

A study of interpersonal skills important to improving teacher-student relationships and achievement in classrooms. Human communication systems related to motivation, achievement, and educator-student relationships are studied. The attainment of effective human relations skills is emphasized. Prerequisite: Junior or Senior standing required.

**CNED 5003. Counseling and Human Development (Sp, Fa). 3 Hours.**

This course is intended to give students a broad overview of human nature/behavior through knowledge of lifespan developmental theory, personality development, modern & post-modern approaches to the study of human nature/behavior, and learning theory. Throughout the course, close attention will be given to human ecology or those social/historical/cultural/environmental forces furthering or impeding development. Prerequisite: Graduate standing.

**CNED 5193. Clinical Mental Health Counseling (Sp). 3 Hours.**

An introductory study of community counseling. The course content includes information concerning the educational, historical, philosophical, and psychological foundations of community counseling as well as specific traits and skills of professional community counselors. In addition, the course is designed to provide introductory level concepts and skills required for future certification and licensure as counseling professionals. Prerequisite: Graduate student status.

**CNED 5203. Foundations of the Counseling Profession (Su, Fa). 3 Hours.**

A study of the counseling profession applicable to school, college and community agency settings. Introduction to the basic educational, historical, philosophical foundations of counseling as well as specific traits and skills of counselors. The course is also designed to provide beginning level concepts and skills required for certification and licensure. Prerequisite: Must be taken first year in program.

**CNED 5213. Lifestyle & Career Development (Su). 3 Hours.**

Theories of career development and counseling, including the use of occupational information sources and career assessment tools and techniques. Prerequisite: CNED 5333.

**CNED 5223. Introduction to School Counseling (Irregular). 3 Hours.**

Philosophy, organization, and practices of a counseling program in the elementary and secondary school. The school counselor's role as counselor, consultant, and coordinator, professional identity, and legal issues are included. Includes a significant focus on ethical standards and issues.

**CNED 5303. Individual Appraisal (Fa). 3 Hours.**

Analysis of concepts, methods, and procedures utilized in individual appraisal.

**CNED 5313. Program Organization and Information Management (Fa). 3 Hours.**

This course addresses needs and strategies for effective development and management of school counseling programs and guidance curriculum. Prerequisite: CNED 5223.

**CNED 5323. Counseling Theory (Su, Fa). 3 Hours.**

Introductory survey and critical analysis of major alternative theoretical perspectives in counseling.

**CNED 5333. Basic Counseling Techniques (Sp, Fa). 3 Hours.**

Introduction to basic counseling techniques and skills common to multiple theoretical perspectives. Prerequisite: Master's students in Counseling.

**CNED 5343. Counseling Practicum (Sp, Fa). 3 Hours.**

Supervised counseling practice. CNED faculty consent required. Pre- or Corequisite: CNED 5303 and CNED 5363 and CNED 5373. Prerequisite: CNED 5203, CNED 5323, CNED 5333, CNED 5403.

**CNED 5353. Psychopharmacology (Su). 3 Hours.**

Study of theory, research, & practice issues pertaining to psychopharmacology for non-medical practitioners. Prerequisite: CNED 5203, CNED 5323, and CNED 5333.

**CNED 5363. Dynamics of Group Counseling (Sp, Fa). 3 Hours.**

Therapeutic and other theoretical information is presented regarding group process and the counselor's role in that process. An experiential group experience is required. Prerequisite: CNED 5333 and CNED 5323.

**CNED 5373. Ethical and Legal Issues in Counseling (Fa). 3 Hours.**

Review of ethical and legal standards governing professional counselor training, research, and counseling practice; including client rights; confidentiality; the client-counselor relationship; and counseling research, training, and supervision. Prerequisite: CNED 5003 and CNED 5203.

**CNED 5383. Crisis Intervention Counseling (Su). 3 Hours.**

Analysis and application of short-term counseling intervention strategies in crisis situations, with special attention to incidents involving rape, physical, or emotional abuse, divorce, suicidal depression, grief, marital or family instability, and violent conflict. Prerequisite: CNED 5333.

**CNED 5403. Case Management and Counseling (Fa). 3 Hours.**

Procedures in case management utilizing both clinical and interview data in assisting children, adolescents, and adults in educational, vocational, personal, and social planning. Prerequisite: CNED 5303 and CNED 5323 and CNED 5333.

**CNED 5513. Counseling and Human Diversity (Su). 3 Hours.**

Examination of human and cultural diversity, emphasizing issues of race, class, and socioeconomic status, and how they impact our clients as individuals and as family and society members.

**CNED 574V. Counseling Internship (Sp, Fa). 1-3 Hour.**

A 600-clock-hour field placement in an approved setting over a minimum of two continuous semesters. For students completing a counseling internship in a school setting, successful completion of a criminal background check is required before beginning internship. Pre- or Corequisite: CNED 5213. Prerequisite: CNED 5203, CNED 5303, CNED 5323, CNED 5333, CNED 5343, CNED 5363, CNED 5373, CNED 5403, CNED 5513. CNED faculty consent required. May be repeated for up to 6 hours of degree credit.

**CNED 599V. Seminar (Irregular). 1-6 Hour.**

May be repeated for up to 6 hours of degree credit.

**CNED 6003. Counseling and Addictions (Su). 3 Hours.**

A study of behavioral and substance additions, including an overview of differential treatment. Prerequisite: CNED 5323 and CNED 5333 and CNED doctoral or masters standing or permission.

**CNED 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Master's Thesis. May be repeated for degree credit.

**CNED 6013. Advanced Counseling Theory and Methods (Even years, Sp). 3 Hours.**

Critical analysis of major theoretical perspectives in counseling, including both group and individual counseling strategies for dealing with affective, cognitive, and behavioral dysfunction. Prerequisite: CNED doctoral standing or permission.

**CNED 6023. Foundations of Marriage and Family Counseling Therapy (Su). 3 Hours.**

Comprehensive exploration of the current theories/techniques of marriage, family and couples counseling. Prerequisite: CNED 5323 and CNED 5333 and CNED doctoral or masters standing or permission.

**CNED 6033. Advanced Group Theory and Methods (Odd years, Sp). 3 Hours.**

Comparative study of theories and processes of group counseling. Includes supervised experience in group facilitation with video recording and playback. Prerequisite: CNED 5363 or equivalent and CNED doctoral or masters standing or permission.

**CNED 6043. Supervision of Counselors (Even years, Fa). 3 Hours.**

Analysis, assessment, and practical application of counselor supervision techniques in treatment and training programs. Prerequisite: CNED doctoral standing and CNED faculty consent.

**CNED 605V. Independent Study (Sp, Su, Fa). 1-18 Hour.**

May be repeated for up to 18 hours of degree credit.

**CNED 6073. Research in Counseling (Fa). 3 Hours.**

This course involves acquiring a knowledge and understanding of the use of research in counseling and the development of new research in the counseling profession that has heuristic value. Prerequisite: Graduate standing.

**CNED 6083. Consultation Theory and Methods (Su). 3 Hours.**

Strategies, practical application, and techniques for effective consultation with parents, teachers, and community agencies. Prerequisite: CNED 5333 (preferred) CNED doctoral or masters standing or permission.

**CNED 6093. Counseling Children and Adolescents Through Play (Sp). 3 Hours.**

Introduction to counseling children and adolescents through play; including the process, theories, techniques, and materials applicable to children and adolescents in a pluralistic society. Prerequisite: CNED 5323 and CNED 5333 and CNED doctoral or masters standing or permission.

**CNED 6113. Theory to Practice: Working with Co-occurring Disorders (Su). 3 Hours.**

This course is designed to demonstrate the application of theory to practice in the treatment of co-occurring disorders. Specifically, it is intended to carefully review current research and literature on counseling individuals presenting with both a substance abuse disorder and mental-emotional challenges. Pre- or Corequisite: CNED 6003. Prerequisite: Graduate or license eligible.

**CNED 6123. Clinical Applications of Marriage and Family Counseling and Therapy (Odd years, Fa). 3 Hours.**

Advanced clinical methodology appropriate for family counseling, marriage counseling, and couples counseling( in all settings), with emphasis on solution-focused systems, Satir model and psychoeducational family work in schools. Includes supervision of clinical experience in marriage, family and couples counseling, video recording and school/community outreach. Prerequisite: CNED doctoral standing or permission.

**CNED 6133. Introduction to Play Therapy (Irregular). 3 Hours.**

This course is an introduction to the basic concepts of child-centered play therapy (CCPT). Students will learn the conceptual framework of child-centered play therapy, as well as the attitudes and skills necessary to establish and maintain facilitative relationships with children that encourage their self-expression and facilitate change. Prerequisite: CNED 5323 and CNED 5333 and CNED doctoral or masters standing or consent.

**CNED 6223. Foundations of Counselor Education and Supervision (Odd years, Sp). 3 Hours.**

This course is designed to enhance the professional development and acculturation of doctoral students in order to facilitate their success in professional leadership roles of counselor education, supervision, counseling practice, and research competencies. Prerequisite: CNED Doctoral status or permission.

**CNED 6343. Cultural Foundations and Counseling (Even years, Fa). 3 Hours.**

To gain learning experiences in pedagogy relevant to multicultural issues and competencies, including social change theory and advocacy action planning. To identify current multicultural issues as they relate to social change theories, ethical and legal considerations, disability, gender, sexuality, social justice, and advocacy models. Prerequisite: CNED or Rhab Doctoral Standing or Permission.

**CNED 6413. Advanced Individual Appraisal (Odd years, Fa). 3 Hours.**

To provide advanced knowledge and experience with those psychoeducational instruments and procedures used in conducting school related assessment. Prerequisite: CNED 5303 or equivalent and CNED doctoral standing or permission.

**CNED 6711. Advanced Counseling Practicum (Sp). 1 Hour.**

Supervised counseling practice. A 100-clock hour approved practical counseling experience. Prerequisite: CNED doctoral standing and permission of CNED faculty and Clinical Coordinator. May be repeated for up to 3 hours of degree credit.

**CNED 674V. Internship (Sp, Su, Fa). 1-18 Hour.**

Supervised field placement (Clinical/Instructorship/Supervision/Research). Prerequisite: CNED doctoral standing, CNED faculty consent and CNED Clinical Coordinator consent. May be repeated for up to 18 hours of degree credit.

**CNED 699V. Seminar (Su). 1-18 Hour.**

Prerequisite: CNED Doctoral standing or permission. May be repeated for up to 18 hours of degree credit.

**CNED 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Doctoral Dissertation. Prerequisite: Candidacy and consent. May be repeated for degree credit.

## Criminal Justice (CMJS) Courses

**CMJS 2003. Introduction to Criminal Justice (ACTS Equivalency = CRJU 1023) (Sp, Su, Fa). 3 Hours.**

An introduction to the history, development, and theoretical underpinnings of the criminal justice system, including aspects such as law enforcement, the courts, and corrections.

**CMJS 2003H. Honors Introduction to Criminal Justice (Sp, Su, Fa). 3 Hours.**

An introduction to the history, development, and theoretical underpinnings of the criminal justice system, including aspects such as law enforcement, the courts, and corrections. Prerequisite: Honors standing.

This course is equivalent to CMJS 2003.

**CMJS 2023. Introduction to Criminology (Sp, Fa). 3 Hours.**

Introduction to the field of criminology, including theories and patterns of criminal behavior, how criminal justice data are collected, social research methods, historical foundations of the field, and types of crimes and offenders. Provides a foundation for further criminological and theoretical studies.

**CMJS 2043. Criminal Law and Society (Sp, Fa). 3 Hours.**

Explores the history of criminal law in the United States, the construction of crime and punishment, and issues facing the contemporary legal system.

**CMJS 2513. Criminal Investigation (Sp, Fa). 3 Hours.**

Survey of the theories, concepts, and legal conditions concerning the techniques used in the location, preservation and presentation of evidence. Prerequisite: CMJS 2003.

**CMJS 3023. Criminology (Sp, Fa). 3 Hours.**

Advanced survey of theories of crime causation. Examines broad sociological paradigms, as well as both individual and aggregate-level explanations of crime causation. Applies criminological theories to contemporary issues associated with crime and criminal justice. Prerequisite: SOCI 2013 and junior standing.

This course is cross-listed with SOCI 3023.

**CMJS 3023H. Honors Criminology (Sp, Fa)-. 3 Hours.**

Advanced survey of theories of crime causation. Examines broad sociological paradigms, as well as both individual and aggregate-level explanations of crime causation. Applies criminological theories to contemporary issues associated with crime and criminal justice. Prerequisite: SOCI 2013 and junior standing.

This course is cross-listed with CMJS 3023, SOCI 3023.

**CMJS 3043. The Police and Society (Sp, Fa). 3 Hours.**

Overview of origins, theories, development, practice, and current issues in policing in contemporary society. Prerequisite: CMJS 2003.

**CMJS 3053. Serial Crime (Irregular). 3 Hours.**

Historical development of criminal profiling in serial homicide, including sex crimes, stalking, and arson. Focuses on behavioral and criminological theory and a critical examination of different profiling methodologies. Prerequisite: SOCI 2013.

This course is cross-listed with SOCI 3053.

**CMJS 3063. Victimology (Sp, Fa). 3 Hours.**

Introduction to the scientific study of victimization. Examines conceptual boundaries of victimology research, covers theories, statistics and trends relevant to victimology, reviews the victim blaming and defending perspectives, explores practical applications of victimology, and the social, legal, and evaluates criminological issues that stem from concern over victims. Prerequisite: SOCI 2013.

This course is cross-listed with SOCI 3063.

**CMJS 3203. Corrections (Sp, Fa). 3 Hours.**

Overview of correctional systems and punishment. Focuses on theories of correctional philosophies, practices, and procedures, along with the historical development and modern practices of corrections, sentencing, facilities, and issues facing correctional populations. Examines principles and practices of treatment and rehabilitation. Prerequisite: CMJS 2003.

This course is cross-listed with SOCI 3203.

**CMJS 3413. Special Topics (Irregular). 3 Hours.**

Designed to cover specialized topics not usually presented in regular courses.

Prerequisite: SOCI 2013. May be repeated for up to 6 hours of degree credit.

**CMJS 3413H. Honors Special Topics (Irregular). 3 Hours.**

Designed to cover specialized topics not usually presented in regular courses.

Prerequisite: Honors standing and SOCI 2013. May be repeated for up to 6 hours of degree credit.

This course is equivalent to CMJS 3413.

**CMJS 3503. Criminal Procedures (Irregular). 3 Hours.**

Critical examination of how individual rights and police procedures are balanced with focus on arrests, use of force, identification, and search and seizure. Prerequisite: CMJS 2003.

**CMJS 3513. Criminal Evidence (Irregular). 3 Hours.**

Examination of how evidence is collected, processed, and presented in court, with an emphasis on the competing interests of crime control and individual liberties.

Prerequisite: CMJS 2003.

This course is cross-listed with SOCI 3513.

**CMJS 3723. Deviant Behavior (Irregular). 3 Hours.**

Sociological overview of disconcerting conduct, its definition, theoretical understandings and research. Specific topics may include: interpersonal violence, self-destructive disorders, controversial lifestyles, substance abuse, as well as the relationship between inequality and disturbing acts. Prerequisite: SOCI 2013.

This course is cross-listed with SOCI 3723.

**CMJS 399VH. Honors Course (Sp, Fa). 1-6 Hour.**

May be repeated for up to 12 hours of degree credit.

**CMJS 4003. Internship in Criminal Justice (Sp, Su, Fa). 3 Hours.**

Supervised experience in municipal, county or state criminal justice agency, or any other agency which is approved by instructor. Prerequisite: CMJS 2003. May be repeated for up to 6 hours of degree credit.

**CMJS 4013. Special Topics in Criminal Justice (Irregular). 3 Hours.**

Offerings vary; check for particular course topics offered. Designed to cover specialized topics in greater depth than regular survey courses provide. Prerequisite: Junior standing. May be repeated for up to 9 hours of degree credit.

**CMJS 4013H. Honors Special Topics in Criminal Justice (Irregular). 3 Hours.**

Offerings vary; check for particular course topics offered. Designed to cover specialized topics in greater depth than regular survey courses provide. Prerequisite: Junior and honors standing. May be repeated for up to 9 hours of degree credit. This course is equivalent to CMJS 4013.

**CMJS 403V. Individual Study in Criminal Justice (Sp, Su, Fa). 1-3 Hour.**

In-depth individual or group study with a faculty member on advanced sociological readings and/or to participate in supervised research as an experience-based course. Faculty permission required in advance of enrollment. Prerequisite: Instructor consent. May be repeated for up to 6 hours of degree credit.

**CMJS 4043. Juvenile Justice (Sp, Fa). 3 Hours.**

Examination of juvenile justice system and juvenile crime, including historical development of the system and treatment of juvenile delinquents along with legal, correctional, and treatment processes and philosophies. Emphasis on current issues facing delinquents, the system, and delinquency prevention in addition to trends in juvenile crime. Prerequisite: CMJS 2003.

**CMJS 4053. Homeland Security (Irregular). 3 Hours.**

An introduction to homeland security and the intelligence community, focusing on how counterterrorism data is collected and used, emerging threats, and balancing civil liberties with domestic intelligence gathering. Prerequisite: CMJS 2003.

**CMJS 4113. Terrorism and Social Control (Irregular). 3 Hours.**

Examines the evolution of modern terrorism, efforts to counter its growth, temporal and spatial patterns of precursor conduct, and the investigation, indictment, prosecution, and punishment of terrorists in federal courts. Focuses primarily upon American terrorist groups (ideologies, motives, group characteristics, and tactics). Prerequisite: Junior standing.

This course is cross-listed with SOCI 4113.

## Crop, Soil and Environmental Sciences (CSES)

### Courses

**CSES 1011. Introduction to Crop, Soil, and Environmental Science (Irregular). 1 Hour.**

An introduction to the CSES department and majors in Environmental Soil and Water Sciences and Crop Management. Emphasis will be placed on issues and opportunities within these disciplines and orienting students to the department and University of Arkansas. Required of all department majors with less than 24 semester credit hours. Recitation 1 hour 20 minutes per week for the first eight weeks of the semester. Prerequisite: Freshman and sophomore standing only.

**CSES 1203. Introduction to Plant Sciences (Sp, Fa). 3 Hours.**

An introduction to basics of agricultural crop plant structure, growth, and production.

**CSES 2003. Introduction to Weed Science (Irregular). 3 Hours.**

Fundamental, practical concepts of weed control and weed biology; equipment and techniques used in modern weed control practices; and basic recommendations and systems for specific agronomic and horticultural crops. Lecture 2 hours, laboratory 2 hours per week. Corequisite: Lab component. Prerequisite: CSES 1203 or CSES 2103 or HORT 2003.

**CSES 2012. Introduction to Organic Crop Production (Irregular). 2 Hours.**

An introduction to the principles of organic agriculture and ecology and the regulations defining organic production and certification. Additional topics include crop rotations for pest management and for increasing soil organic matter, feeding the soil and plant nutrition, soil health, and green manuring, corporate agriculture and genetically modified organisms.

**CSES 2013. Pest Management (Sp). 3 Hours.**

Introduction to basic principles of pest management as they relate to vertebrate animals, insects, plant disease and weeds. Selected pests are studied with emphasis on current management approaches and alternative pest control.

**CSES 2101L. Crop Science Laboratory (Sp). 1 Hour.**

A series of laboratory experiments designed to reinforce principles of plant growth and development, reproduction, classification, and the utilization of plant products. Emphasis is placed on major crop plant species. Experiments are conducted by individuals or by teams. Laboratory consists of a single, 2-hour period each week. Required for Crop Management majors. Corequisite: CSES 2103.

**CSES 2103. Crop Science (Sp). 3 Hours.**

Principles of crop growth, development, and utilization and how these principles relate to production. Emphasis on major agronomic crop species. Lecture 3 hours per week.

**CSES 2201L. Soil Science Laboratory (Sp, Fa). 1 Hour.**

Field and laboratory exercises related to the study of the physical, chemical, and biological properties of soils. Laboratory mandatory for all crop management and environmental, soil, and water science majors and optional for others. Laboratory 2 hours per week. Pre- or Corequisite: CSES 2203.

**CSES 2203. Soil Science (Sp, Fa). 3 Hours.**

Origin, classification, and physical, chemical, and biological properties of soils. Lecture 3 hours, discussion 1 hour per week. Corequisite: Drill component. Prerequisite: MATH 1203 and CHEM 1103 or CHEM 1073.

**CSES 3023. Crop, Soil, and Environmental Sciences Colloquium (Fa). 3 Hours.**

A communication-intensive course covering topics in agronomy and environmental, soil, and water science with particular emphasis on spoken communication but also including written communication, group activities, professionalism, ethics, problem solving, and information retrieval. A student-oriented class with collaborative participation. Colloquium workshop: 3 hours per week. Prerequisite: COMM 1313 and Junior or Senior standing only.

**CSES 3112. Forage Management (Irregular). 2 Hours.**

Forage crops for pasture, hay, and silage with reference to growth and development, production, nutritional quality, and grazing systems. Lecture 2 hours per week. Prerequisite: CSES 1203 or CSES 2103.

**CSES 3214. Soil Resources and Nutrient Cycles (Odd years, Sp). 4 Hours.**

Integration of the fundamental concepts of the biological, chemical, and physical properties of soil systems and their roles in managing soil resources. Lecture 3 hours, laboratory 3 hours per week. Pre- or Corequisite: BIOL 2013 and BIOL 2011L. Corequisite: Lab component. Prerequisite: CSES 2203.

**CSES 3312. Cotton Production (Even years, Fa). 2 Hours.**

Principles and techniques associated with production of cotton. Recitation 2 hours per week. Prerequisite: CSES 1203 or CSES 2103.

**CSES 3322. Soybean Production (Odd years, Sp). 2 Hours.**

An overview of the history and utilization of soybean as well as the physiological and environmental basis for the development of economical soybean production practices. Recitation 2 hours per week. Prerequisite: CSES 1203 or CSES 2103.

**CSES 3332. Rice Production (Odd years, Fa). 2 Hours.**

A study of the principles and practices involved in rice culture worldwide with major emphasis on the United States. Recitation 2 hours per week. Prerequisite: CSES 1203 or CSES 2103.

**CSES 3342. Cereal Grain Production (Even years, Sp). 2 Hours.**

An overview of the botany, production, cultural practices, soil & climatic adaptation and utilization of the major cereal grain crops. Prerequisite: CSES 1203 or CSES 2103.

**CSES 355V. Soil Profile Description (Fa). 1-2 Hour.**

Training for soil profile description writing and membership of judging teams. May be repeated for up to 8 hours of degree credit.

**CSES 3603. Metrics for Sustainable Agricultural Systems (Fa). 3 Hours.**

Analysis of productive agricultural systems necessary to meet expanding demand worldwide for food, feed, fiber and fuel while preserving critical ecosystem services to avoid future catastrophic failures of the biosphere. Characterization of sustainable systems using well-defined metrics, indicators and indices, including reference to sustainability certifications. Metrics for soil, water, atmosphere and biodiversity. Applications in crop and animal production with scales from field to watershed to eco-region. Examining the process and methodologies of integrating metrics into indices to support sustainable supply chain decisions. Discussion of life cycle analyses and current initiatives toward approaching agricultural systems sustainability. Technical course intended for students in agriculture, biology, business, engineering, and environmental sciences. This course is cross-listed with BENG 3603.

**CSES 400V. Special Problems (Sp, Su, Fa). 1-6 Hour.**

Work on special problems in crop, soil and environmental sciences or related field. May be repeated for up to 6 hours of degree credit.

**CSES 4013. Advanced Crop Science (Fa). 3 Hours.**

Fundamental concepts of crop physiology, crop improvement, seed science, and crop production systems. Recitation 3 hours per week. Prerequisite: CSES 2103.

**CSES 402V. Special Topics (Irregular). 1-3 Hour.**

Studies of selected topics in crop, soil and environmental sciences not available in other courses. May be repeated for up to 12 hours of degree credit.

**CSES 4103. Plant Breeding (Even years, Fa). 3 Hours.**

Basic principles involved in plant breeding programs to improve crop plants and seed programs. Lecture 2 hours, laboratory 2 hours per week. Corequisite: Lab component. Prerequisite: ANSC 3123 or BIOL 2323.

**CSES 4133. Ecology and Morphology of Weedy and Invasive Plants (Fa). 3 Hours.**

Study of weeds as economic pests occurring in both agricultural and nonagricultural situations and including poisonous plants and other specific weed problems. Gross morphological plant family characteristics which aid identification, habitat of growth and distribution, ecology, competition, and allelopathy are discussed. Lecture 2 hours, laboratory 2 hours a week. Corequisite: Lab component. Prerequisite: CSES 2103 or HORT 2003.

**CSES 4143. Principles of Weed Control (Sp). 3 Hours.**

Advanced concepts and technology used in modern weed control practices and study of the chemistry and specific activity of herbicides in current usage. Lecture 2 hours, laboratory 2 hours per week. Corequisite: Lab component. Prerequisite: CHEM 1073 and CHEM 1071L.

**CSES 4224. Soil Fertility (Fa). 4 Hours.**

Study of the soil's chemical, biological and physical properties, and human modification of these properties, as they influence the uptake and utilization of the essential nutrients by plants. Lecture 3 hours, laboratory 2 hours per week. Pre- or Corequisite: CHEM 1123 and CHEM 1121L or (CHEM 1073 and CHEM 1071L and CHEM 2613 and CHEM 2611L). Corequisite: Lab component. Prerequisite: CSES 2201L and CSES 2203.

**CSES 4253. Soil Classification and Genesis (Odd years, Fa). 3 Hours.**

Lecture and field evaluation of soil properties and their relation to soil genesis and soil classification with emphasis on soils of Arkansas. Lecture 2 hours, laboratory 2 hours per week. Corequisite: Lab component. Prerequisite: CSES 2203 and CSES 2201L.

**CSES 4303. Bioenergy Feedstock Production (Sp). 3 Hours.**

Overview of production and characteristics of cultivated crops, perennial grasses, and woody species as feedstocks for bioenergy. Fundamentals of plant growth factors, culture, harvest and storage, quality and improvement, and introduction to environmental impact, modeling, and resource utilization. Prerequisite: MATH 1203 and BIOL 1543 or CSES 1203. Courses in introductory chemistry or soil science are preferred.

**CSES 4553. Wetland Soils (Odd years, Sp). 3 Hours.**

This course explains the chemical, physical, and morphological characteristics of wetland soils and describes the techniques for identifying wetland soils using field indicators and monitoring equipment. This course also explains principles of wetland creation, restoration, and mitigation - all key components in assuring the sustainability of valuable wetland resources. Prerequisite: CSES 2203 and CSES 2201L or CSES 355V.

**CSES 462V. Internship (Sp, Su, Fa). 1-6 Hour.**

Supervised practical work experience in agronomy and environmental science to develop and demonstrate professional competence. Faculty approval of project proposal prior to enrollment and written and oral reports after the project is complete are required. Prerequisite: Instructor consent. May be repeated for up to 6 hours of degree credit.

**CSES 5001. Weed Science Practicum (Su). 1 Hour.**

Training for membership on weed team, through participation. Prerequisite: Graduate standing.

**CSES 5013. Crop Physiology (Odd years, Fa). 3 Hours.**

Understanding and quantitative measurement of physiological processes, plant responses, and environmental parameters in relation to the production of crops. Prerequisite: BIOL 4303.

**CSES 5023. Physiology of Herbicide and Plant Interaction (Odd years, Sp). 3 Hours.**

The reproduction, growth, and development of weeds and the ecological factors affecting these processes; development and mechanisms of herbicide resistance, flow of herbicide-resistance genes; and development of herbicide-resistant crops. Corequisite: Lab component. Prerequisite: CSES 4143 or CSES 5143 (formerly CSES 4143) and (BIOL 4303 or CHEM 5813).

**CSES 502V. Special Problems Research (Sp, Su, Fa). 1-6 Hour.**

Original investigations on assigned problems in agronomy. Prerequisite: Graduate standing.

**CSES 5033. Advanced Soil Fertility and Plant Nutrition (Sp). 3 Hours.**

Study of water uptake, ion absorption, translocation and metabolism in higher plants. Lecture 3 hours per week. Prerequisite: BIOL 4303 and CHEM 2613 and CHEM 2611L.

**CSES 504V. Special Topics (Irregular). 1-4 Hour.**

Topics not covered in other courses or a more intensive study of specific topics in agronomy. Prerequisite: Graduate standing. May be repeated for degree credit.

**CSES 5053. Scientific Writing (Irregular). 3 Hours.**

Open to graduate students, especially those in agricultural and life sciences. The course will cover searching the scientific literature, writing theses, proposals, journal articles, and other scientific documents. Emphasis on style and techniques used in scientific publication. Lecture and workshop 3 hours per week. Prerequisite: Graduate standing.

**CSES 5073. Advanced Crop Science (Fa). 3 Hours.**

(Formerly CSES 4013.) Fundamental concepts of crop physiology, crop improvement, seed science, and crop production systems. Recitation 3 hours per week. Graduate degree credit will not be given for both CSES 4013 and CSES 5073. Prerequisite: CSES 2103.

**CSES 5093. Plant Breeding (Even years, Fa). 3 Hours.**

(Formerly CSES 4103.) Basic principles involved in plant breeding programs to improve crop plants and seed programs. Lecture 2 hours, laboratory 2 hours per week. Graduate degree credit will not be given for both CSES 4103 and CSES 5093. Corequisite: Lab component. Prerequisite: ANSC 3123 or BIOL 2323.

**CSES 5103. Scientific Presentations (Fa). 3 Hours.**

Experience in procedures required for professional presentations of scientific papers, seminars, posters; and research findings at meetings in conferences, and with discussion groups. Instruction in organization of materials, visual aids, and good speaking habits. Lecture 3 hours per week. Prerequisite: Graduate standing.

**CSES 5114. Soil Fertility (Fa). 4 Hours.**

(Formerly CSES 4224.) Study of the soil's chemical, biological and physical properties, and human modification of these properties, as they influence the uptake and utilization of the essential nutrients by plants. Lecture 3 hours, laboratory 2 hours per week. Graduate degree credit will not be given for both CSES 4224 and CSES 5114. Pre- or Corequisite: CHEM 1123 and CHEM 1121L or (CHEM 1073 and CHEM 1071L and CHEM 2613 and CHEM 2611L). Corequisite: Lab component. Prerequisite: CSES 2201L and CSES 2203.

**CSES 5133. Ecology and Morphology of Weedy and Invasive Plants (Fa). 3 Hours.**

(Formerly CSES 4133.) Study of weeds as economic pests occurring in both agricultural and nonagricultural situations and including poisonous plants and other specific weed problems. Gross morphological plant family characteristics which aid identification, habitat of growth and distribution, ecology, competition, and allelopathy are discussed. Lecture 2 hours, laboratory 2 hours a week. Graduate degree credit will not be given for both CSES 4133 and CSES 5133. Corequisite: Lab component. Prerequisite: CSES 2103 or HORT 2003.

**CSES 5143. Principles of Weed Control (Sp). 3 Hours.**

(Formerly CSES 4143.) Advanced concepts and technology used in modern weed control practices and study of the chemistry and specific activity of herbicides in current usage. Lecture 2 hours, laboratory 2 hours per week. Graduate degree credit will not be given for both CSES 4143 and CSES 5143. Corequisite: Lab component. Prerequisite: CHEM 1073 and CHEM 1071L.

**CSES 5214. Analytical Research Techniques in Agronomy (Even years, Fa). 4 Hours.**

Preparation and analysis of plant and soil samples utilizing spectrophotometry, isotopes, and chromatographic separation methods. Additionally, measurements are made of photosyntheses, respiration, water relationships, light, and temperatures in whole plants. Lecture 2 hours, laboratory 4 hours per week. Corequisite: Lab component. Prerequisite: BIOL 4303 and CHEM 2613 and CHEM 2611L.

**CSES 5224. Soil Physics (Sp). 4 Hours.**

Physical properties of soils and their relation to other soil properties, growth of plants and transport of water, oxygen, heat, and solutes such as pesticides and plant nutrients. Lecture 3 hours, laboratory 3 hours per week. Corequisite: Lab component. Prerequisite: CSES 2203 and MATH 1203.

**CSES 5233. Plant Genetic Engineering (Odd years, Sp). 3 Hours.**

Topics will be covered in the field of in vitro plant biology, transgene genetics and crop genetic engineering. Concepts and applications of transgenic plant technology will be discussed, with the emphasis on the strategies for crop improvement and gene discovery. Lecture 3 hours.

**CSES 5253. Soil Classification and Genesis (Odd years, Fa). 3 Hours.**

(Formerly CSES 4253.) Lecture and field evaluation of soil properties and their relation to soil genesis and soil classification with emphasis on soils of Arkansas. Lecture 2 hours, laboratory 2 hours per week. Graduate degree credit will not be given for both CSES 4253 and CSES 5253. Corequisite: Lab component. Prerequisite: CSES 2203 and CSES 2201L.

**CSES 5264. Microbial Ecology (Odd years, Fa). 4 Hours.**

A study of the microorganisms in soil and the biochemical processes for which they are responsible. Lecture 3 hours, laboratory 3 hours per week. Additional suggested prerequisites are BIOL 2013, CSES 2203, and ENSC 3003. Corequisite: Lab component. Prerequisite: BIOL 1543 and BIOL 3863 or ENSC 3223.

**CSES 5303. Bioenergy Feedstock Production (Sp). 3 Hours.**

(Formerly CSES 4303.) Overview of production and characteristics of cultivated crops, perennial grasses, and woody species as feedstocks for bioenergy. Fundamentals of plant growth factors, culture, harvest and storage, quality and improvement, and introduction to environmental impact, modeling, and resource utilization. Graduate degree credit will not be given for both CSES 4303 and CSES 5303. Prerequisite: MATH 1203 and BIOL 1543 or CSES 1203.

**CSES 5313. Crop Simulation Models in Research, Management and Policy (Even years, Fa). 3 Hours.**

The basics of theory and practice of crop simulation models and their applications in crop research and management, and cropping systems planning and policy. Prerequisite: MATH 1203 and BIOL 1543 or CSES 1203 or consent of instructor. Courses in introductory chemistry and plant physiology are preferred.

**CSES 5323. Soil/Water Quality in Bioenergy Feedstock Production Systems (Odd years, Fa). 3 Hours.**

Examine concepts of soil and water quality in relation to bioenergy feedstock production, explore research related to biomass removal and by-product addition to soils, and examine the potential effects of proposed feedstock production systems on soil and water quality. Prerequisite: MATH 1203 and CSES 2203 or equivalent or consent of instructor, and CSES 4303 or CSES 5303 (formerly CSES 4303) preferred.

**CSES 5453. Soil Chemistry (Even years, Sp). 3 Hours.**

Application of the principles of chemistry to processes of agronomic and environmental importance in soils. Soil clay mineralogy, soil solution thermodynamics, structure and reactivity of humus, surface complexation and ion exchange, electro-chemical phenomena, and colloidal stability. Prerequisite: CSES 2203 and CHEM 1123 and CHEM 1121L.

**CSES 5533. Wetland Soils (Odd years, Sp). 3 Hours.**

(Formerly CSES 4553.) This course explains the chemical, physical, and morphological characteristics of wetland soils and describes the techniques for identifying wetland soils using field indicators and monitoring equipment. This course also explains principles of wetland creation, restoration, and mitigation - all key components in assuring the sustainability of valuable wetland resources. Graduate degree credit will not be given for both CSES 4553 and CSES 5533. Prerequisite: CSES 2203 and CSES 2201L or CSES 355V.

**CSES 5543. Plant Genomics (Even years, Sp). 3 Hours.**

Plant genetics based on the study of whole genome sequence, transcriptome and proteome. Provides an overview of the principles and techniques of experimental and in silico genomics. Covers all areas of genome research including structural, comparative and functional genomics as well as proteomics. Prerequisite: CHEM 5843 or any graduate level genetics course.

**CSES 5553. Forage-Ruminant Relations (Odd years, Sp). 3 Hours.**

Advanced chemical, physical, and botanical characteristics of forage plants, the dynamics of grazing, intake and digestion, and techniques of measuring forage utilization and systems analysis at the plant-animal interface. CSES 1203 recommended. Corequisite: Lab component. Prerequisite: ANSC 3143. This course is cross-listed with ANSC 5553.

**CSES 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Master's Thesis. Prerequisite: Graduate standing. May be repeated for degree credit.

**CSES 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Doctoral Dissertation. Prerequisite: Graduate standing. May be repeated for degree credit.

## Curriculum and Instruction (CIED) Courses

### **CIED 1003. Introduction to Technology in Education (Sp, Su, Fa). 3 Hours.**

A study of computer technology as it relates to teacher education. This course introduces students interested in teacher education to the knowledge and skills required to demonstrate their proficiency in technology and learning.

### **CIED 1013. Introduction to Education (Sp, Fa). 3 Hours.**

Integrates psychological, sociological, and philosophical foundations of education with concurrent involvement in field experiences. Encourages prospective teachers to become reflective practitioners by emphasizing organization of school systems, planning and implementation of effective classroom environments, development of teaching styles, and new directions in education. An 18-hour early field experience designed to give prospective teachers opportunities to observe and participate in a variety of school settings is incorporated in this introductory course to education.

### **CIED 2173. Literacy in America (Sp). 3 Hours.**

A course that examines the myriad definitions of literacy (and illiteracy) and their connections to issues of social class, occupational status, economic and political structures, educational institutions, cultural organizations, and the media.

This course is cross-listed with ENGL 2173.

### **CIED 3001. Early Childhood Education Practicum (Sp, Su, Fa). 1 Hour.**

This practicum course provides opportunities for students to observe and practice providing instruction and guidance in preschool settings. Corequisite: CIED 3003.

### **CIED 3003. Early Childhood Education (Sp, Su). 3 Hours.**

The study of kindergarten and preschool programs: social context of early childhood education, purposes, research basis, curriculum development, methods, and materials. Corequisite: CIED 3001. Prerequisite: CIED 1013.

### **CIED 3013. Development and Learning Theories in the K-6 Classroom (Sp, Fa). 3 Hours.**

This course allows students to cultivate an understanding of how elementary students develop, process information, and learn; studies educational applications pertaining to theories of development, intelligence, and thinking dispositions. Students study various learning theories, their implications for instruction, and their role in the K-6 classroom. Field experience required. Prerequisite: CHEDBS or ELELBS major.

### **CIED 3013H. Honors Development and Learning Theories in the K-6 Classroom (Sp, Fa). 3 Hours.**

This course allows students to cultivate an understanding of how elementary students develop, process information, and learn; studies educational applications pertaining to theories of development, intelligence, and thinking dispositions. Students study various learning theories, their implications for instruction, and their role in the K-6 classroom. Field experience required. Prerequisite: CHEDBS or ELELBS major and honors.

This course is equivalent to CIED 3013.

### **CIED 3023. Survey of Exceptionalities (Sp, Su, Fa). 3 Hours.**

A survey of the characteristics of students with exceptional needs. Reviews the definitions of exceptionalities, learning and behavior characteristics of individuals with exceptionalities and the legal basis for the education of persons with exceptionalities in both elementary and secondary schools. Prerequisite: CIED 1013 or MUED 2012; or AGED 1123 and AGED 1031, or HESC 1501 or PSYC 2003.

### **CIED 3033. Classroom Learning Theory (Sp, Su, Fa). 3 Hours.**

A survey of the major theories of learning with special emphasis on human learning and implications for education. Prerequisite: CIED 1002 and CIED 1011; or MUED 2012; or PHED 1003; or AGED 1123 and AGED 1031; and PSYC 2003.

### **CIED 3043. Introduction to Middle Level Principles and Methods (Fa). 3 Hours.**

A comprehensive overview of the key components, principles, methodologies, and research foundations to middle level education. Reflective activities and site-based field experience are integrated with course content to provide continuity between theory and practice. Portfolio expectations will be a primary means of course evaluation. Prerequisite: CIED 3053.

### **CIED 3053. The Emerging Adolescent (Sp, Fa). 3 Hours.**

This course is a study of the developmental characteristics (social, emotional, physical, moral, and intellectual) of early adolescents (ages 10-15 years). The implications of these changes for motivation, instruction, learning, and classroom management in the classroom are emphasized. Course has field component. Pre- or corequisite: CIED 3033. Prerequisite: CIED 1013.

### **CIED 3063. Literacy Strategies for Middle Level Learners (Sp). 3 Hours.**

This course is designed to examine theories and practice regarding literacy development and assessment grounded in the knowledge of the characteristics of the middle level learner. A ten-hour field experience is required. Corequisite: CIED 3073. Prerequisite: CIED 3043.

### **CIED 3063H. Honors Literacy Strategies for Middle Level Learners (Sp). 3 Hours.**

This course is designed to examine theories and practice regarding literacy development and assessment grounded in the knowledge of the characteristics of the middle level learner. A ten-hour field experience is required. Corequisite: CIED 3073 and honors candidacy. Prerequisite: CIED 3043. This course is equivalent to CIED 3063.

### **CIED 3073. Early Adolescent Literature (Sp). 3 Hours.**

A study of rationales and strategies for incorporating early adolescent literature across the middle level curriculum. Includes an examination of genres and selected texts from each. Corequisite: CIED 3063. Prerequisite: CIED 3043.

### **CIED 3073H. Honors Early Adolescent Literature (Sp). 3 Hours.**

A study of rationales and strategies for incorporating early adolescent literature across the middle level curriculum. Includes an examination of genres and selected texts from each. Corequisite: CIED 3063. Prerequisite: CIED 3043 and honors candidacy.

This course is equivalent to CIED 3073.

### **CIED 3083. Arts Integration in the Classroom (Fa). 3 Hours.**

Content course in arts integration including the pedagogy, design, and implementation of lesson plans which teach skills through the visual and performing arts to students.

### **CIED 3093. Essentials of Literacy (Sp, Fa). 3 Hours.**

An undergraduate foundational course focusing on literacy development and processes of children from the emergent to developmental stages, materials and effective research-based teaching strategies for classroom practice. Not for credit in Childhood Education (CHED) degree program.

### **CIED 3103. Children and Adolescent Literature (Sp, Fa). 3 Hours.**

A survey of children's literary works, authors, and illustrators with emphasis on elementary grade and adolescent literature. Prerequisite: CHEDBS or ELELBS or HDFSBS BRKD or HDFSBS CDEV or PSPED major.

### **CIED 3103H. Honors Children and Adolescent Literature (Sp, Fa). 3 Hours.**

A survey of children's literary works, authors, and illustrators with emphasis on elementary grade and adolescent literature. Corequisite: CIED 3113. Prerequisite: CHEDBS or ELELBS major and honors.

This course is equivalent to CIED 3103.

### **CIED 3113. Emergent and Developmental Literacy (Sp, Fa). 3 Hours.**

This course focuses on theories of children's emerging literacy and on the continuing development of literacy abilities in pre-kindergarten and early elementary years. Prerequisite: ENGL 1013, ENGL 1023, and CIED 3262 and CHEDBS or ELELBS or HDFSBS BRKD or HDFSBS CDEV or SPEDBS major.

**CIED 3113H. Honors Emergent and Developmental Literacy (Sp, Fa). 3 Hours.**

This course focuses on theories of children's emerging literacy and on the continuing development of literacy abilities in pre-kindergarten and early elementary years. Prerequisite: ENGL 1013, ENGL 1023, and CIED 3262, CHEDBS or ELELBS major and honors.

This course is equivalent to CIED 3113.

**CIED 3123. Mathematics Methods in the K-6 Classroom (Sp, Fa). 3 Hours.**

An examination of the content of elementary mathematics courses. Special emphasis given to methods of teaching the content as well as enrichment materials. Prerequisite: MATH 1203, MATH 2213, MATH 2223, STAT 2303, and CHEDBS or ELELBS major.

**CIED 3133. Integrated Social Studies for the K-6 Classroom (Sp, Fa). 3 Hours.**

Focuses on the methodology of facilitating elementary students' development in language arts and social studies. Integrates the curriculum and teaching strategies in language arts and social studies. Prerequisite: CHEDBS or ELELBS major, and PLSC 2003 and HIST 2003 and HIST 2013, and (HIST 1113 or HIST 1123), and (GEOS 1123 or ANTH 1023), and (ECON 3053 or ECON 2143), and ARHS 1003, and MLIT 1003.

**CIED 3143. Teaching Science in the Elementary Grades (Sp, Fa). 3 Hours.**

Study of the methods and materials in teaching science. Classroom applications of teaching strategies with analysis of teacher effectiveness in seminar settings are emphasized. Prerequisite: (BIOL 1543 and BIOL 1541L), and (GEOS 1113 and GEOS 1111L), and (PHYS 1034 or ASTR 2003 and ASTR 2001L), and CHEDBS or ELELBS major.

**CIED 3262. Language Development for the Educator (Sp, Fa). 2 Hours.**

Nature of speech-language development in preschool and school-aged children, including cognitive prerequisites, social contexts, and relationships between language acquisition and literacy. Language differences (dialectal, bilingual) and speech-language disorders are explored. The role of the educator in facilitating language acquisition is emphasized. Prerequisite: CHEDBS or ELELBS major.

**CIED 3901H. Honors Curriculum and Instruction Education Thesis Tutorial (Sp, Su, Fa). 1 Hour.**

Designed to provide the foundation for the Honors Thesis. Students and faculty tutors work "one-on-one" exploring a specific topic which has been agreed upon by the student and the professor. Prerequisite: Honors candidacy.

**CIED 4003. Elementary Seminar (Fa). 3 Hours.**

This course is designed to synthesize the foundational content presented in the Bachelor of Science in Education, Elementary Education program. It focuses on refinement of generalized knowledge to accommodate specialized content relevant to elementary students. Corequisite: CIED 4173. Prerequisite: CHEDBS or ELELBS major.

**CIED 4013. Capstone Course for Foreign Language Licensure (Sp). 3 Hours.**

This course is designed to identify and provide evidence of content language specific proficiencies in the four skills of reading, writing, listening, and speaking a foreign language.

**CIED 4023. Teaching in Inclusive Secondary Settings (Su). 3 Hours.**

This course is designed to prepare pre-service teachers to teach in inclusive classroom settings at the secondary level. Course content will focus on the ways in which exceptionality, specifically focused on high-incidence disabilities and culture, specifically focused on English language learners mediate the learning experiences of secondary level students.

**CIED 4083. Creativity in Daily Practice (Even years, Sp). 3 Hours.**

Arts integration course including the ideas, design, and implementation of practices in the classroom, board room, and professional field that enrich the experiences of all stakeholders while building right-brain thinking skills for the new millennium. May be repeated for up to 6 hours of degree credit.

**CIED 4101. Practicum (Sp). 1 Hour.**

Practicum. Corequisite: CIED 3133.

**CIED 4101H. Honors Practicum (Sp). 1 Hour.**

Practicum. Corequisite: CIED 4113.

This course is equivalent to CIED 4101.

**CIED 4113. Integrated Communication Skills for the K-6 Classroom (Sp, Fa). 3 Hours.**

Focuses on the methodology of facilitating elementary students' literacy development. Emphasis is on the integration of the communication skills of reading, writing, speaking, and listening across the curriculum. Prerequisite: COMM 1313 or COMM 2323 and CHEDBS or ELELBS major.

**CIED 4113H. Honors Integrated Communication Skills for the K-6 Classroom (Sp, Fa). 3 Hours.**

Focuses on the methodology of facilitating elementary students' literacy development. Emphasis is on the integration of the communication skills of reading, writing, speaking, and listening across the curriculum. Prerequisite: COMM 1313 or COMM 2323 and CHEDBS or ELELBS major and honors.

This course is equivalent to CIED 4113.

**CIED 4123. Literacy Assessment and Interventions in the Elementary Classroom (Fa). 3 Hours.**

An undergraduate course focusing on literacy assessment and intervention for prospective classroom teachers. Participants become familiar with assessment procedures and instruments for identifying student strengths and weaknesses in literacy, determining effective intervention strategies for literacy improvement, and principles of reporting assessment and intervention outcomes. Corequisite: CIED 4173. Prerequisite: CHEDBS or ELELBS major.

**CIED 4131. Practicum for Secondary and Multilevel Tracks in Education (Sp, Su). 1 Hour.**

This practicum is a requirement for entry into the EDUC MA, Master of Arts in Teaching program. Students will be involved in documented experiences with children for a minimum of 60 hours in grades K-12. Students enrolled in the multilevel track will be placed in a combination of elementary, middle, and high school settings. Students enrolled in the secondary track will be placed in a combination of middle and high school settings. Prerequisite: Cleared background check.

**CIED 4133. Measurement and Research in the K-6 Classroom (Su). 3 Hours.**

This course is designed to provide an introduction to educational assessment, research methods, and what research has to say about trends and topics in elementary education. Prerequisite: CHEDBS or ELELBS major.

**CIED 4143. Curriculum Design and Applications of Instructional Practice (Sp). 3 Hours.**

A course in the design and adaptation of curriculum for students in regular, elementary classrooms. Theoretical bases and curriculum models will be reviewed. Corequisite: CIED 4173. Prerequisite: CHEDBS or ELELBS major.

**CIED 4153. Classroom Management in the Elementary Grades (Sp, Fa). 3 Hours.**

This course focuses on a number of different management techniques for elementary classrooms that can be used in general education settings. Prerequisite: CHEDBS or ELELBS major.

**CIED 4163. Senior Project (Su). 3 Hours.**

This course is designed to provide students with the research skills necessary to complete their senior project. Prerequisite: CHEDBS or ELELBS major.



**CIED 4173. Student Teaching (Sp, Fa). 3 Hours.**

Full-time student teaching in grades K-6 to be repeated both fall and spring semesters. Students will practice and master instructional strategies under the supervision of qualified mentor teachers and university faculty members. Prerequisite: CHEDBS or ELELBS major. May be repeated for up to 6 hours of degree credit.

**CIED 4323. Instructional Design for Teachers (Fa). 3 Hours.**

Study of the design of instruction for students with exceptionalities. Emphasis is placed on synthesizing a broad range of existing and emerging perspectives and methods of instruction and applying them to practical classroom practice. Prerequisite: CIED 3023 and CHEDBS or ELELBS major.

**CIED 4363. Disciplinary Literacy in the K-6 Classroom (Sp, Fa). 3 Hours.**

Focuses on the methodology of extending K-6 learners' basic literacy development, as a foundation for intermediate and disciplinary literacy. Emphasis is on the engagement of students in the distinct reading, writing, speaking, and listening requirements of different disciplines. Prerequisite: CIED 3113 and CHEDBS or ELELBS major.

**CIED 4403. Understanding Cultures in the Classroom (Su, Fa). 3 Hours.**

This course provides pre-and in-service teachers knowledge and skills necessary for educating ethnically and linguistically diverse classrooms. Students have the opportunity to understand positive relationships while removing stereotypes and prejudices. It addresses issues for social justice education through understanding ways that children learn and communicate in their homes and communities. Students will examine how topics in multicultural education inform instructional goals, curriculum planning/implementation, and teaching practices across content areas in public K-12 classrooms. Some sections of this course will contain a service learning component.

**CIED 4413. Acquiring a Second Language (Fa). 3 Hours.**

The course gives an introduction to the basics in research and learning theories involved in the acquisition of second languages and cultures, particularly of English.

**CIED 4423. Teaching English as a Second Language (Sp). 3 Hours.**

This course is designed to provide teacher candidates with the basic knowledge and teaching skills necessary to address the linguistic needs of English language learners (ELLs) in regular classrooms. The students in this class will learn about and use multiple strategies for promoting ELLs' reading, writing, listening, and speaking skills. Emphasis will be placed especially on differentiating early reading instruction for ELLs. Prerequisite: CHEDBS or ELELBS major.

**CIED 4433. The Moral Mind in Action (Fa). 3 Hours.**

The Moral Mind in Action explores how people reason through moral dilemmas and prepares students to more effectively recognize and resolve moral problems. Best practices of teachers and administrators of K-16 character education programs are discussed.

**CIED 4443. Moral Courage (Sp). 3 Hours.**

Moral Courage explores the factors that support translating moral thinking into moral action. This course draws from the field of positive psychology to guide students as they leverage existing strengths and develop new strategies for acting with moral courage in their personal and professional lives. Best practices of teachers and administrators of K-16 character education programs are discussed.

**CIED 4503H. Honors Charles Darwin and the Legacy of Evolution (Even years, Sp). 3 Hours.**

This highly integrated honors class draws on various perspectives to examine the life of Charles Darwin and the legacy and impact of evolution. Topics and guest instructors change each semester, but the course will focus on evolution from the perspectives of biology, anthropology, the law, philosophy, history, culture and literature.

**CIED 4513. Teaching Children with Mild Disabilities (Sp, Fa). 3 Hours.**

This course is a study of the characteristics of young students with disabilities and methods for teaching this group of students. The course will provide future teachers with an understanding of interventions useful in teaching individuals with special learning needs during grades P-4.

**CIED 4513H. Honors Teaching Children with Mild Disabilities (Irregular). 3 Hours.**

This course is a study of the characteristics of young students with disabilities and methods for teaching this group of students. The course will provide future teachers with an understanding of interventions useful in teaching individuals with special learning needs during grades P-4.

This course is equivalent to CIED 4513.

**CIED 4523. Teaching Children with Severe Disabilities (Sp, Su). 3 Hours.**

This course is a study of the characteristics of young students with severe disabilities and methods for teaching this group of students. The course will provide future teachers with an understanding of interventions useful in teaching individuals with special learning needs during grades P-4.

**CIED 4523H. Honors Teaching Children with Severe Disabilities (Sp, Su). 3 Hours.**

This course is a study of the characteristics of young students with severe disabilities and methods for teaching this group of students. The course will provide future teachers with an understanding of interventions useful in teaching individuals with special learning needs during grades P-4.

This course is equivalent to CIED 4523.

**CIED 498VH. Curriculum and Instruction Honors Thesis/Project (Sp, Su, Fa). 1-3 Hour.**

Designed to provide facilitation of the Honors Thesis/Project. Students and faculty work "one-on-one" to complete the honors thesis/project. Prerequisite: Honors candidacy and CIED 3901H. May be repeated for up to 3 hours of degree credit.

**CIED 499V. Special Topics in Curriculum and Instruction Education (Sp, Su, Fa). 1-6 Hour.**

Discussion and advanced studies on selected topics in curriculum and instruction. Special focus on recent and emerging topics in education. May be repeated for up to 18 hours of degree credit.

**CIED 499VH. Honors Special Topics in Curriculum and Instruction Education (Sp, Su, Fa). 1-3 Hour.**

Discussion and advanced studies on selected topics in curriculum and instruction. Special focus on recent and emerging topics in education. This course is equivalent to CIED 499V.

**CIED 5003. Elementary Education Seminar (Sp). 3 Hours.**

This course is designed to synthesize the foundational content presented in the Master of Arts in Teaching core courses. It focuses on refinement of the generalized knowledge to accommodate specialized content children. Professional attitudes, knowledge and skills relevant to elementary students. Professional attitudes, knowledge and skills applicable to today's elementary educator are addressed. Prerequisite: Admission to the CHED M.A.T.

**CIED 5012. Measurement, Research, and Statistical Concepts for Teachers (Su). 2 Hours.**

An introduction to constructing, analyzing, and interpreting tests, types of research and the research process, qualitative and quantitative techniques for assessment, and descriptive and inferential statistics.

**CIED 5013. Measurement, Research and Statistical Concepts in the Schools (Su). 3 Hours.**

An introduction to constructing, analyzing, and interpreting tests; types of research and the research process; qualitative and quantitative techniques for assessment; and descriptive and inferential statistics. Prerequisite: Admission to graduate school.

**CIED 5022. Classroom Management Concepts (Fa). 2 Hours.**

A number of different classroom management techniques are studied. It is assumed that a teacher must possess a wide range of knowledge and skills to be an effective classroom manager. Prerequisite: Admission to the M.A.T. program.

**CIED 5032. Curriculum Design Concepts for Teachers (Sp). 2 Hours.**

The design and adaptation of curriculum for students in regular and special K-6 classrooms. Theoretical bases and curriculum models are reviewed. Concurrent clinical experiences in each area of emphasis are included. Prerequisite: Admission to the M.A.T. program.

**CIED 5043. Content Area Reading in Elementary Grades (Su, Fa). 3 Hours.**

This course teaches the integration of reading and writing in the content areas. Reading and writing as integrated strands of the language process is presented in the context of instructional principles and suggested teaching practices. A solid research base is emphasized while keeping the focus on practical application. Prerequisite: Admission to the M.A.T. program.

**CIED 5052. Seminar: Multicultural Issues (Su). 2 Hours.**

This seminar provides an introduction to the major concepts and issues related to multicultural education. The ways in which race, ethnicity, class, gender, and exceptionality influence students' behavior are discussed. Prerequisite: Admission to the M.A.T. program.

**CIED 5053. Multicultural Issues in Elementary Education (Odd years, Sp) (Su). 3 Hours.**

This course provides an introduction to the major concepts and issues related to multicultural education in elementary classrooms. The ways in which race, class, gender and exceptionality influence students' behavior are discussed. Prerequisite: Admission to graduate school.

**CIED 5063. Disciplinary and Interdisciplinary Literacies in Education (Fa). 3 Hours.**

This course teaches the integration of reading, writing, and new literacies within the discipline and across disciplines. Theory and strategy are presented as integrated strands of the language process as presented in the context of instructional principles and suggested teaching practices. A solid research base is emphasized while keeping the focus on practical application. Prerequisite: Admission to Teacher Education M.A.T. Program. May be repeated for up to 6 hours of degree credit.

**CIED 5073. Action Research in Elementary Education (Sp). 3 Hours.**

Provides the students with experience in conducting case studies and action research related to childhood education. In addition, students gain knowledge regarding practices used in ethnographic research. Prerequisite: Admission to M.A.T. program.

**CIED 508V. Elementary Education Cohort Teaching Internship (Sp, Fa). 1-6 Hour.**

Full-time student teaching in grades K-6 to be repeated both fall and spring semesters. Students will practice and master instructional strategies under the supervision of qualified mentor teachers and university faculty members. May be repeated for up to 6 hours of degree credit.

**CIED 5093. Methods of Instruction for Middle Level I (Su). 3 Hours.**

A study of methods and materials in the special content areas (math, science, English/language arts, and social studies). The planning of instruction, microteaching, and the development of middle school instructional materials are included. Prerequisite: Admission to M.A.T. program.

**CIED 5103. Advanced Middle Level Principles (Sp). 3 Hours.**

An in-depth examination of recent research on the major issues, practices, and policies for middle level education. Emphasis is on analysis of cutting edge issues germane to the life, education, and welfare of the early adolescent via the integration of theory and practice. Prerequisite: Admission to Masters of Arts in Teaching program.

**CIED 5113. Reading in Middle Schools (Sp, Su, Fa). 3 Hours.**

An overview of methods and materials for teaching reading to early adolescents. Reflective activities and site-based field experiences are integrated with course content to provide continuity between theory and practice. Portfolio expectations will be a primary means of course evaluation. Prerequisite: Admission to the middle level education program and CIED 3113.

**CIED 5123. Writing Process Across the Curriculum (Middle Level) (Sp). 3 Hours.**

This course will provide an overview of the research, and methods for incorporating writing across all curriculum. Writing as a process will be emphasized. Reflective activities and site-based field experience will be integrated into the course content. Prerequisite: Admission to M.A.T. Program.

**CIED 5132. Research in Middle Level Curriculum and Instruction (Fa). 2 Hours.**

An introduction to inquiry and research in middle level curriculum and instruction. It examines the principles, strategies, and techniques of research, especially qualitative inquiry. Practicum in educational research and evaluation is done as part of the class. Prerequisite: Admission to the MAT program.

**CIED 5143. Internship: Middle Level (Sp, Su, Fa). 3 Hours.**

The internship for middle level education is an extended field experience in which a pre-service teacher integrates knowledge and skills developed in education classes with practice in the field. Prerequisite: Admission to the M.A.T. program.

**CIED 5162. Applied Practicum (Fa). 2 Hours.**

Provides laboratory experiences for CIED 5173 (Literacy Assessment and Intervention) and CIED 5183 (Readings in Early Childhood Education). Corequisite: CIED 5183 and CIED 5173. Prerequisite: Admission to the M.A.T. program.

**CIED 5173. Literacy Assessment and Intervention (Su, Fa). 3 Hours.**

Focuses on assessment of young children's literacy skills. Techniques discussed include informal observation, miscue analysis, and portfolio assessment. Prerequisite: Admission to graduate school.

**CIED 5183. Readings in Early Childhood Education (Fa). 3 Hours.**

Will continue to develop understandings of classic studies and will explore the impact these have had on the most recent issues in early childhood education. Prerequisite: Admission to the CHED M.A.T.

**CIED 5193. Methods of Instruction for Middle School II (Fa). 3 Hours.**

Second special methods course for teaching at the middle level. Emphasizes further refinement of teaching skills and methods; the integration of the sciences, mathematics, and technology; science, technology, and society (STS) issues; and the integration of social studies and English language arts. Prerequisite: CIED 5093 and admission to the M.A.T. program.

**CIED 5203. English Language Arts/Speech & Drama Methods of Instruction (Su). 3 Hours.**

This course provides an introduction to teaching English language arts (ELA) and speech/drama in the context of elementary, middle and high school settings. The topics, issues, methods, and materials encompassing philosophical, cognitive, and psychological dimensions of teaching the content area provide the major tenets of instruction.

**CIED 5213. Issues and Trends in Literacy (Fa). 3 Hours.**

This course provides an examination of practices to teaching literacy, broadly defined. The topics, issues, methods, and materials encompassing philosophical, cognitive, and psychological dimensions of teaching provide the major tenets of instruction. May be repeated for up to 6 hours of degree credit.

**CIED 5223. Learning Theory (Su). 3 Hours.**

This course provides the student with information about foundational issues in education, including history and philosophy of American Education, psychological and social theories of education, characteristics of learners, and learning processes. Prerequisite: Admission to M.A.T. degree program.

**CIED 5232. Interdisciplinary Studies (Sp, Su, Fa). 2 Hours.**

Introduction to the nature of interdisciplinary study: curricular content, course planning (topics and themes), instructional strategies, and evaluation and assessment. Prerequisite: Admission to the M.A.T. program.

**CIED 5263. Assessment, Evaluation, and Practitioner Research (Fa). 3 Hours.**

A study of assessment, testing, and evaluative procedures in classrooms including types of tests, abuses of tests, test construction, scoring, analysis and interpretation, statistical methods, and alternative evaluation and assessment techniques.

Classroom-based data collection and analysis. Prerequisite: Admission to the M.A.T. program.

**CIED 5273. Research in Curriculum and Instruction (Sp, Su, Fa). 3 Hours.**

An introduction to inquiry and research in curriculum and instruction. It examines the principles, strategies, and techniques of research, especially qualitative inquiry. Qualitative method in assessment and evaluation are considered. Practicum in educational research and evaluation is done as part of the class. Prerequisite: Admission to the M.A.T. program.

**CIED 528V. Teaching Experience (Sp, Fa). 1-6 Hour.**

The teaching experience is an essential component of the Masters of Arts in Teaching degree. The two semester experience allows Teacher Candidates (TC) to make further application of theoretical principles of teaching and learning. Teacher Candidates will be assigned placement in area schools for both fall and spring semesters. The fall semester consists of a field experience including observation, co-planning, and co-teaching. The spring semester consists of an immersion experience for teacher candidates to plan and teach independently. Prerequisite: Admission to the M. A. T. Program. May be repeated for up to 6 hours of degree credit.

**CIED 5293. Special Methods, Interdisciplinary Section (Sp). 3 Hours.**

The third and final part of the middle level special methods course. Provides interns with the knowledge, dispositions, and skills for developing an interdisciplinary course of study in conjunction with the members of their interdisciplinary team. Prerequisite: CIED 5093 and admission to M.A.T. program.

**CIED 5303. Adolescence and Learning (Sp). 3 Hours.**

Study of the developmental characteristics (physical, emotional, social and intellectual) of early and late adolescence (ages 10-18; grades 5 to 12). The progression from early to late adolescence and the implications this evolution has for learning, motivation, instruction and classroom practices are emphasized. Prerequisite: PSYC 2003.

**CIED 5313. Principles of Qualitative Research in Curriculum & Instruction (Fa). 3 Hours.**

Designed specifically for aspiring qualitative researchers who wish to conduct research in settings unique to curriculum and instruction. Methods of research design, data analysis, and writing for publication will be emphasized. Strongly recommended for graduate students who are considering a qualitative thesis or dissertation in curriculum and instruction.

**CIED 5323. Transition Planning for Persons with Disabilities (Sp). 3 Hours.**

Prepares students to plan, evaluate, and implement transition programs within both regular and special classrooms at the elementary, middle and secondary school levels.

**CIED 532V. Practicum in Special Education (Irregular). 1-6 Hour.**

Supervised field experiences in special education programs, schools, institutions, and other facilities for exceptional children.

**CIED 5333. Curriculum Theory and Development for Educators (Su). 3 Hours.**

The design and adaptation of curriculum for students in regular and special K-12 classrooms. Theoretical bases and curriculum models are reviewed. Concurrent clinical experiences in each area of emphasis are included. Prerequisite: Admission to the M.A.T. program. May be repeated for up to 6 hours of degree credit.

**CIED 5343. Analysis of Behavior for Teachers (Sp). 3 Hours.**

An advanced course in managing behaviors in students with exceptionalities. Students are provided with experiences in applying theoretical bases of classroom management through identifying, assessing graphing, and analyzing behavioral data and implementing management plans. Ethical issues in the use of functional analysis are addressed.

**CIED 5353. Teaching Students with Diverse Needs in Middle Education Settings (Irregular). 3 Hours.**

To provide future scholar-practitioners with a knowledge base concerning the issues involved in the successful instruction of persons with special learning needs during middle school years.

**CIED 5363. Methods and Assessment in K-12 Online Teaching (Fa). 3 Hours.**

The study of curriculum, instructional methods and assessment techniques to facilitate student learning in K-12 virtual and hybrid teaching environments. Students enrolled in the course will be required to demonstrate knowledge of prevalent and relevant models of K-12 curriculum, web-based instructional methods, assessment techniques and utilize tools for the development and implementation of effective instruction in the K-12 virtual classroom. Prerequisite: Graduate standing.

**CIED 5393. Introduction to Linguistics (Fa). 3 Hours.**

This course is an introduction to human language. The goal is to understand what it means to speak a language, including an introduction to phonetics and phonology (specifically the sound system of American English), morphology (the rules of English at the word level), syntax (rules that govern sentence level language), semantics (meanings of words) and sociolinguistics (or the study of language use in its social context).

**CIED 5403. Early Childhood Education: Rationale and Curriculum (Irregular). 3 Hours.**

Rationale and curriculum of an early childhood education program, with special attention given curricular frameworks and professional organization policies.

**CIED 5423. Curriculum and Instruction: Models and Implementation (Odd years, Sp). 3 Hours.**

The study of models of curriculum and instruction and their implementation to facilitate student learning in a variety of instructional environments.

**CIED 5433. Methods and Materials for Teaching Children's and Adolescent Literature (Irregular). 3 Hours.**

Issues and trends in children's literature. Contemporary works are evaluated and reviewed based on changing social political conditions. Multicultural approach to children's literature is emphasized. Prerequisite: Undergraduate course in children's literature.

**CIED 5443. Methods of Teaching Foreign Language K-12 (Fa). 3 Hours.**

Study of the methods and materials in the teaching of foreign language in K-12 settings as well as the theories of second language acquisition. Includes philosophical, cognitive, and psychological dimensions of teaching foreign languages. The planning of instruction, microteaching, and the development of instructional materials are included. Prerequisite: Admission to the MAT program. May be repeated for up to 6 hours of degree credit.

**CIED 5453. Evaluation Techniques (Irregular). 3 Hours.**

Evaluation of learning using traditional means of assessment as well as alternative or authentic assessment techniques.

**CIED 5461. Capstone Research Seminar (Sp). 1 Hour.**

This course provides students with basic knowledge and practical skills in understanding, utilizing and implementing a research design project with a focus in the discipline of curriculum and instruction with particular emphasis of some aspect of teaching and/or learning. As a part of this course students will design, conduct and report the results of an action research study undertaken in the teaching internship. Prerequisite: Admission to M.A.T. program. May be repeated for up to 2 hours of degree credit.

**CIED 5483. Teaching Mathematics (Irregular). 3 Hours.**

Content, methods, and materials for teaching multiple strands of elementary school mathematics. Emphasis on principles and procedures of a conceptual and integrated approach to learning mathematics. Prerequisite: Undergrad coursework in teaching elementary or early childhood mathematics.

**CIED 5493. Teaching Social Studies (Irregular). 3 Hours.**

Purpose, content, psychology, materials, and methods for teaching the social sciences in the elementary school. Emphasis on principles and procedures for combining the social studies with other areas of the curriculum in broad unit instruction. Prerequisite: Undergraduate coursework in teaching elementary or early childhood social studies.

**CIED 5503. Teaching Science (Sp, Su). 3 Hours.**

The influence of science on the community, on the home, and the child. Use of science in the living and learning of the child at school.

**CIED 5513. Sound System of American English (Fa). 3 Hours.**

This course will study the structure and development of American English (AE). Topics include: 1) the structure/systems of American English pronunciation, 2) vowels, 3) consonant system (including such features as minimal pairs, 4) prosody, intonation, rhythm, and stress, and 5) regionalism and social varieties, and 6) pedagogical approaches to teaching the features of American English.

**CIED 5523. Instructional Practices in Teaching Foreign Language (Sp). 3 Hours.**

A pedagogical studies course based on the theoretical and practical aspects of methods, techniques, and materials for effective teaching of foreign languages in K-12 schools. Prerequisite: Admission to M.A.T. Program. May be repeated for up to 6 hours of degree credit.

**CIED 5533. Teaching Language Arts (Sp). 3 Hours.**

The place of the language arts in the elementary curriculum. Exploration of materials, content, practices, and methods, used in reading, speaking, listening, and writing experiences.

**CIED 5543. Structures of American English (Sp, Su). 3 Hours.**

This course provides an introduction to the grammars of English, including (but not restricted to) traditional, structural, and transformational-generative (universal grammar). It includes approaches to the teaching of all types of grammars.

**CIED 5553. Social Justice and Multicultural Issues in Education (Su). 3 Hours.**

This seminar provides an introduction to the major concepts and issues related to multicultural education and social justice in education and the ways in which race, ethnicity, class, gender, and exceptionality influence students' behavior. The course also examines the intersection of teacher and student perceptions of identity, schooling, and learning and the effects on educational systems. Prerequisite: Admission to MAT. May be repeated for up to 6 hours of degree credit.

**CIED 5563. Teaching Internship/Action Research (Irregular). 3 Hours.**

During this course, Master's candidates will be provided with classroom time to prepare to teach and then will be assigned to a classroom or classrooms. During this time the candidates will have an opportunity (under supervision) to observe, to teach and to participate in classroom activities. Additionally, candidates will research some area of their own pedagogy relevant to the experience.

**CIED 5573. Foundations of Literacy (Sp, Su, Fa). 3 Hours.**

Teaching of reading to children; techniques, research, and modern practices.

**CIED 5583. Correlates of Reading Process (Irregular). 3 Hours.**

The developmental program is emphasized through a student of the reading process. Learning theory and research are related to reading instruction and materials through the development and application of evaluative criteria based on an understanding of reading process. Prerequisite: CIED 5573.

**CIED 5593. Advanced Diagnosis and Intervention (Irregular). 3 Hours.**

Emphasizes the diagnosis and remediation of reading difficulties in the classroom setting. Students are expected to become familiar with cause of reading failure, diagnosis instruments and procedures, principles of report writing, and corrective instructional methods and materials. The course is open to graduate students with instructor's consent. Enrollment limited to 20. Prerequisite: CIED 5573.

**CIED 5603. Innovations in School Education (Sp, Su, Fa). 3 Hours.**

An examination of the change process in education with emphasis on those elements which support or hinder change in the schools, and the detailed study of schools innovations on national, state, and local levels.

**CIED 5613. Contemporary Issues in Education (Odd years, Fa). 3 Hours.**

A study of issues pertaining to the goals, objectives, organization, and curriculum of the schools with an analysis of the teacher's role in dealing with current concerns in these areas.

**CIED 5623. The School Curriculum (Sp, Su, Fa). 3 Hours.**

General principles and techniques of selecting and organizing curricular materials.

**CIED 5633. Analysis of Instruction (Even years, Sp). 3 Hours.**

A survey of the research and literature related to the systematic study of the field of teaching. An examination of the definitions of teaching and the knowledge base on which teaching is predicated. A study of the implications of the research of effective teaching and the key curricular and instructional issues.

**CIED 564V. Science Instructional Strategies (Irregular). 1-6 Hour.**

Methods and materials in teaching specific science content with a focus on that content and/or the pedagogical perspectives necessary for effective and engaging instruction. May be repeated for up to 6 hours of degree credit.

**CIED 5653. Methods of Middle School Instruction (Su). 3 Hours.**

Philosophy, rationale, and instructional practices of middle school instruction. Prerequisite: Graduate standing.

**CIED 5663. Evaluation of Instruction (Even years, Su). 3 Hours.**

Examination of methods and philosophies of evaluation. Consideration will be given to grading, techniques of grading, and construction of behavioral objectives and test items.

**CIED 567V. Teaching Foreign Cultures in Social Studies Curricula (Sp, Su, Fa). 1-6 Hour.**

Extensive examination of foreign cultures (West Europe, USSR, China, Latin America) and methods of teaching about them in secondary school social studies.

**CIED 5683. Adolescent Literature (Sp, Su, Fa). 3 Hours.**

Content course in adolescent literature including selection, reading, evaluation, and psychological basis of classic and contemporary works. Prerequisite: PSYC 3093 or equivalent.

**CIED 5703. English Language Arts and Reading Standards: Contents and Quality (Irregular). 3 Hours.**

This course will (1) examine the purposes, contents, and quality of K-12 English language arts and reading standards, (2) analyze their relationship to classroom and school district curricula, student assessment, educator licensing regulations, licensure tests, and professional development, (3) and explore educational, social, and political issues raised by ELA/R standards.

**CIED 5713. Integrating the Elementary Curriculum (Su). 3 Hours.**

This course focuses on meaningful integration of science, mathematics, literacy, social studies, art, and music in the elementary classroom. A strong foundation for integrating the elementary curriculum will be developed by providing students with theoretical frameworks, research, resources, and methods related to classroom practice. Strategies to coordinate the integration of these subject areas for the K-4 classroom will be modeled.

**CIED 5723. Nature and Needs of Persons with Mild Disabilities (Fa). 3 Hours.**

Educational, psychological, and social characteristics of individuals who have mild disabilities with emphasis on educational methods and modifications. Prerequisite: CIED 3023.

**CIED 5793. Practicum in Literacy (Sp, Su, Fa). 3 Hours.**

Laboratory experience in which students diagnose reading difficulties and practice remedial measures under the direct supervision of the instructor. Emphasis is given to continuous diagnosis and to the use of commercially produced materials and trade books in remediation. Enrollment limited to 15. Prerequisite: CIED 5593.

**CIED 5803. Nature and Needs of the Gifted and Talented (Fa). 3 Hours.**

Educational, psychological, and social characteristics of gifted and talented children. Prerequisite: Graduate standing.

**CIED 5813. Curriculum Development in Gifted and Talented (Sp). 3 Hours.**

Examines the various models for developing curriculum and providing services for students identified for gifted programs. Prerequisite: CIED 5803.

**CIED 5823. Gifted and Talented (Structured) Practicum (Su). 3 Hours.**

Supervised field experience in gifted education programs, schools, institutions, and other facilities for gifted/talented children. Prerequisite: CIED 5813.

**CIED 5833. Gifted and Talented (Flex) Practicum (Fa). 3 Hours.**

Students design and implement an individualized practicum experience (Type III Renzulli) that provides the opportunity to refine and enhance personal attitudes, beliefs, and skills in gifted education. Prerequisite: CIED 5823.

**CIED 5843. Representations of American Education in Film (Irregular). 3 Hours.**

This course provides an examination of students, teachers, administrators, schools, and schooling as they exist on the silver screen. Of particular interest is how film representations and misrepresentations potentially affect public perceptions of education. This course draws on educational theory and the field of cultural studies.

**CIED 5853. Issues in Mathematics Education (Irregular). 3 Hours.**

Study of research in mathematics education and applications to classroom teaching and learning. Emphasis will be given past and current research in the areas of students' cognitive development in mathematics, mathematics curriculum development, and teaching practices and assessment.

**CIED 5863. Teaching Global Issues (Odd years, Sp). 3 Hours.**

Global interdependence and its consequent issues have become an integral part of most social studies programs in American schools. Some schools developed specific courses, required or elective, and others include them in existing history, economics, government and civic courses. Secondary social studies teachers and their students explore these issues as part of current events discussions. Prerequisite: Graduate standing.

**CIED 5923. Second Language Acquisition (Sp). 3 Hours.**

This is one of four courses leading to Arkansas approved endorsement for teaching English as a Second Language (ESL). The course gives an introduction to the basics in research and learning theories involved in the acquisition of second languages and cultures, particularly ESL.

**CIED 5933. Second Language Methodologies (Fa). 3 Hours.**

This is one of a series of four courses leading to Arkansas approved endorsement for teaching English as a Second Language (ESL). The course introduces the basics in approaches, methodologies, techniques, and strategies for teaching second languages, especially ESL.

**CIED 5943. Teaching People of Other Cultures (Sp). 3 Hours.**

This is one in a series of four courses leading to Arkansas approved endorsement for teaching English as a Second Language (ESL). The course focuses on cultural awareness, understanding cultural differences, and instruction methods for integrating second cultures, especially the culture of the United States, into the curriculum.

**CIED 5953. Second Language Assessment (Sp). 3 Hours.**

This is one in a series of four courses leading to Arkansas approved endorsement for teaching English as a Second Language (ESL). The course introduces basic methods for testing, assessing and evaluating second language, especially ESL, learners for placement purposes and academic performance.

**CIED 5963. Reading in Middle and Secondary Schools (Irregular). 3 Hours.**

Methods and materials of teaching reading in secondary schools with emphasis on remedial and developmental reading problems of students.

**CIED 5973. Practicum in Secondary Education (Sp, Fa). 3 Hours.**

Students will engage in action research in a school setting to advance their knowledge of teaching and learning venues including schools and informal learning environments. Prerequisite: Permission.

**CIED 5983. Practicum in C & I (Sp, Su, Fa). 3 Hours.**

This course will provide degree candidates with advance knowledge of teaching in the elementary or secondary schools. This will be accomplished through a semester-long practicum during which an action research project will be designed, enacted, and reported. Prerequisite: Admission to the M.Ed. Program. May be repeated for up to 6 hours of degree credit.

**CIED 599V. Special Topics (Sp, Su, Fa). 1-18 Hour.**

May be repeated for up to 18 hours of degree credit.

**CIED 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

This course is designed for students completing a thesis at the master's level in curriculum and instruction and related programs. It may be taken multiple times for 1-6 credits but no more than 6 credits will be counted toward the degree. Prerequisite: Graduate Standing. May be repeated for degree credit.

**CIED 6013. Curriculum Theory, Development, and Evaluation (Odd years, Fa). 3 Hours.**

Principles and concepts of curriculum and development, with an analysis of the factors basic to planning, the aims of the educational program, the organization of the curriculum, curriculum models, and elements desirable in the curriculum of schools including evaluation.

**CIED 6023. Instructional Theory (Irregular). 3 Hours.**

Study of psychological, anthropological, sociological, and educational theories of instruction and learning. Emphasis is placed on synthesizing a broad range of existing and emerging perspectives in understanding individual, interactional and contextual phenomena of instruction and learning. Prerequisite: EDFD 5373.

**CIED 6033. Content Specific Pedagogy (Irregular). 3 Hours.**

This course explores the relationship between the content of courses taught in schools and the pedagogical principles that the teaching of the content requires. Students will discuss and synthesize findings from the research literature and from personal investigation.

**CIED 6043. Analysis of Teacher Education (Odd years, Sp). 3 Hours.**

This course examines issues, problems, trends, and research associated with teacher education programs in early childhood, elementary, special education, and secondary education. Prerequisite: CIED 6023.

**CIED 6053. Curriculum and Instruction: Learner Assessment and Program Evaluation (Even years, Fa). 3 Hours.**

This course provides an overview of designing, implementing and analyzing learner assessments as well as systemic and program evaluations in a variety of instructional environments. Prerequisite: Admissions to Ed.S. or Ph.D. program.

**CIED 6063. Systemic Change In Education (Odd years, Sp). 3 Hours.**

This course is designed to critically examine education and society and interplay their interdependence between them, to differentiate between meaningful and superficial change, and to explore the agents of change in a diverse and complex social environment. Prerequisite: Admission to Ed.S. or Ph.D. program.

**CIED 6073. Seminar in Developing Creativity (Irregular). 3 Hours.**

A study of the facets of creativity, how they can be applied to be used in one's everyday life, how they can be applied in all classrooms, and how to encourage the development of these in students.

**CIED 6083. Piaget's Theory and Instruction (Odd years, Sp). 3 Hours.**

Piaget's theory has been applied to classroom instruction in various settings. This course will investigate the theory in depth, study classroom application, and students will devise application. Prerequisite: CIED 6023.

**CIED 6093. Vygotsky in the Classroom (Even years, Fa). 3 Hours.**

This course introduces the cultural-historical theory of L. Vygotsky and considers its complexity. The comprehensive nature of Vygotsky's heritage and the importance of the sociocultural context for understanding his work is emphasized, as well as the implications of his theories for contemporary educational settings.

**CIED 6113. Trends and Issues in Social Studies Education (Odd years, Sp). 3 Hours.**

Analysis of social studies education including an examination of the historical, political and social issues that have shaped curriculum, pedagogy and the educator's role in the increasingly complex endeavor to prepare future citizens.

**CIED 6123. New Literacy Studies (Odd years, Fa). 3 Hours.**

In the past decade scholars have expressed an interest in the diverse literacy practices in which adolescents engage outside of school. In using new media, adolescents interweave multiple sign system, including word and image, to construct a narrative or communicate information. How do readers interpret these texts? What conventions do authors manipulate to influence the meanings they construct? This course aims to answer these and other questions. May be repeated for up to 12 hours of degree credit.

**CIED 6133. Trends and Issues in Curriculum and Instruction (Fa). 3 Hours.**

Analysis of trends and issues in curriculum and instruction with emphasis on political/social contexts and prevailing philosophies/theories/practices across disciplines. Prerequisite: Admittance in Ed.D, Ed.S. or Ph.D. program.

**CIED 6143. Differentiated Instruction for Academically Diverse Learners (Even years, Su). 3 Hours.**

Major focus of this course will be the examination of differentiated instruction, a teaching philosophy appropriate for a wide range of learners.

**CIED 6153. Theories of Literacy Learning (Odd years, Sp). 3 Hours.**

In this seminar, students consider theories of literacy learning and their implications for practice and research. Theories are viewed as historically and socially situated, and students reflect on how their own work might be situated within these theories. The ways in which theories support research methodology are also explored.

**CIED 6163. Social and Emotional Components of Gifted and Talented Students (Even years, Su). 3 Hours.**

Purpose of this course is to study the theoretical and practical aspects of those affective issues, behaviors, and experiences often associated with gifted and talented students.

**CIED 6183. Theory and Research in Arts Integration (Sp, Su). 3 Hours.**

Content course in arts integration including the pedagogy, design, and implementation of lesson plans which simultaneously address core curriculum learning targets and teach skills through the visual and performing arts in order to address the needs of the learners of the new millennium. Prerequisite: Instructor consent.

**CIED 6233. Organization of Reading Programs (Sp, Su, Fa). 3 Hours.**

Study of the problem of organizing the classroom, individual school, and school system, for the improvement of reading instruction. Emphasis is given to the development of program organization rationale based on requirements of the teaching-learning setting.

**CIED 6313. Issues, History, and Rationale of Science Education (Irregular). 3 Hours.**

This course is the foundation experience for those interested in the discipline of science education. It provides an overview of the fundamental issues in and vocabulary of science education. The course includes the research basis for science teaching, the literature of science education, and the issues and controversies surrounding the teaching of science.

**CIED 6333. Nature of Science: Philosophy of Science for Science Educators (Irregular). 3 Hours.**

The Nature of Science is a hybrid arena consisting of aspects of the philosophy, history and sociology of science along with elements of the psychology of scientific observations all targeting the complete understanding of how science actually functions. Prerequisite: Admission to grad school.

**CIED 6343. Advanced Science Teaching Methods (Irregular). 3 Hours.**

This course is designed for those educators who have had some previous instruction in science teaching methods and/or had some prior science teaching experience. Students will gain new or renewed perspectives with respect to their personal teaching ability while engaging in discussions and activities designed to assist others in professional grow in science instruction. Prerequisite: Admission to graduate school.

**CIED 6443. Mixed Methods Research (Sp). 3 Hours.**

This course will provide opportunities for students to acquire the skills, knowledge, and strategies necessary to design and implement a mixed methods research study. Emphasis is upon developing research questions, developing a research design, selecting a sample, and utilizing appropriate techniques for analyzing data.

**CIED 6503. Effective Teaching: Concepts and Processes (Sp). 3 Hours.**

This course is designed to assist students in examining a variety of effective teaching practices and conditions found in classrooms and in acquiring knowledge, concepts, and ideas about ways to effectively influence the interests, learning and development of students. Prerequisite: Admission to the Ph.D. program.

**CIED 6533. Problem-Based Learning and Teaching (Irregular). 3 Hours.**

A course in the design, development, and delivery of the problem-based learning (PBL) model. Theoretical cases and curriculum models will be centered on issues and models related to PBL.

**CIED 6603. Multicultural Education (Su). 3 Hours.**

This course is designed to trace, examine, discuss, and promote understanding of issues related to multicultural education, different views of multicultural education, and the impact of multicultural education upon the schooling process. Emphasis is upon schooling experiences of culturally diverse students, language issues, gender issues, and evaluation issues. Prerequisite: Admission to the Ed.S. or Ph.D. program.

**CIED 660V. Workshop (Irregular). 1-18 Hour.**

May be repeated for up to 18 hours of degree credit.

**CIED 6623. Research Methods and Scholarship in Curriculum and Instruction (Even years, Fa). 3 Hours.**

In this course students will look at methods and practices in writing a successful dissertation proposal. Emphasis will be placed on research studies, collection of reliable and valid data, and analysis of data. Throughout the course, topics will focus on what scholarship looks like in curriculum and instruction. Prerequisite: Advanced standing in the doctoral program.

**CIED 674V. PhD Research Internship (Sp, Su, Fa). 1-6 Hour.**

This research internship is for doctoral level students in curriculum and instruction. The goal is provide research experience within the doctoral course of study. May be repeated for up to 6 hours of degree credit.

**CIED 680V. Ed.S. Project (Sp, Su, Fa). 1-6 Hour.**

Instructor permission required to register. Prerequisite: Instructor permission.

**CIED 684V. PhD Teaching Internship (Sp, Su, Fa). 1-6 Hour.**

This teaching internship is for doctoral level students in curriculum and instruction. The goal is to provide teaching experience within the doctoral course of study.

**CIED 694V. Special Topics (Sp, Su, Fa). 1-6 Hour.**

Discussion and advanced studies on selected topics in curriculum and instruction. Specific focus on recent developments. May be repeated for up to 6 hours of degree credit.

**CIED 695V. Independent Study (Sp, Su, Fa). 1-6 Hour.****CIED 699V. Doctoral Seminar (Sp, Su, Fa). 1-3 Hour.**

May be repeated for up to 3 hours of degree credit.

**CIED 700V. Dissertation (Sp, Su, Fa). 1-18 Hour.**

Dissertation. Prerequisite: Candidacy. May be repeated for degree credit.

## Dance (DANC) Courses

**DANC 1003. Basic Course in the Arts: Movement and Dance (Sp, Su, Fa). 3 Hours.**

Introduction to the nature and scope of ballet, modern dance, and ethnic-ritual-world dance forms, their potential for contributing towards multicultural literacy, and to the shaping of an American audience. Comprised of lectures, videos, and movement experiences in the form of Studio Labs.

**DANC 1003H. Honors Basic Course in the Arts: Movement and Dance (Sp, Su, Fa). 3 Hours.**

Introduction to the nature and scope of ballet, ethnic, and modern dance forms, their potential for contributing towards multicultural literacy, and to the shaping of an American audience. Comprised of lectures, videos, and movement experiences in the form of studio labs. Prerequisite: honors standing.

This course is equivalent to DANC 1003.

**DANC 1912. Beginning Modern Dance (Sp, Fa). 2 Hours.**

Introduction to basic techniques with an emphasis on acquiring flexibility, strength, and coordination.

**DANC 1922. Beginning Modern Dance II (Sp). 2 Hours.**

A continuation of basic modern dance techniques from DANC 1912, with emphasis on weight, time, and shape in movement.

**DANC 1932. Beginning Ballet (Sp, Fa). 2 Hours.**

Introduction to the basic techniques of ballet in the recognized classic form including barre exercises, port de bras, and center practice.

**DANC 1942. Beginning Ballet II (Sp). 2 Hours.**

A continuation of the basic techniques of classical ballet from DANC 1932. This course is not recommended for those students who have extensive training, but the student must be versed in the basic fundamentals of ballet.

## Dance Education Activity (DEAC) Courses

**DEAC 1961. Ballroom Dance (Sp). 1 Hour.**

The fundamentals of ballroom dance.

## Economics (ECON) Courses

**ECON 2013. Principles of Macroeconomics (ACTS Equivalency = ECON 2103) (Sp, Su, Fa). 3 Hours.**

Macroeconomic analysis, including aggregate employment, income, fiscal and monetary policy, growth and business cycles. Credit will be allowed for only one of ECON 2013 and AGEC 2103. Prerequisite: MATH 1203 or higher, or a score of 26 on the math component of the ACT exam, or 600 on the math component of the SAT.

This course is cross-listed with AGEC 2103.

**ECON 2013H. Honors Principles of Macroeconomics (Fa). 3 Hours.**

Macroeconomic analysis, including aggregate employment, income, fiscal and monetary policy, growth and business cycles. Credit will be allowed for only one of ECON 2013H and AGEC 2103. Prerequisite: MATH 1203 or higher or a score of 26 on the math component of the ACT exam, or 600 on the math component of the old SAT or 620 on the math component of the new SAT.

This course is cross-listed with ECON 2013, AGEC 2103.

**ECON 2023. Principles of Microeconomics (ACTS Equivalency = ECON 2203) (Sp, Su, Fa). 3 Hours.**

Microeconomic analysis, including market structures, supply and demand, production costs, price and output, and international economics. Credit will be allowed for only one of ECON 2023 and AGEC 1103. Prerequisite: MATH 1203 or higher, or a score of at least 26 on the math component of the ACT exam, or a score of at least 600 on the math component of the SAT.

This course is cross-listed with AGEC 1103.

**ECON 2023H. Honors Principles of Microeconomics (Sp). 3 Hours.**

Microeconomic analysis, including market structures, supply and demand, production costs, price and output, and international economics. Credit will be allowed for only one of ECON 2023H and AGEC 1103. Prerequisite: MATH 1203 or higher, or a score of 26 on the math component of the ACT exam, or 600 on the math component of the old SAT or 620 on the math component of the new SAT.

This course is cross-listed with ECON 2023, AGEC 1103.

**ECON 2143. Basic Economics: Theory and Practice (Sp, Su, Fa). 3 Hours.**

Surveys basic micro, macro principles and analytical tools needed to study contemporary economic problems such as inflation, unemployment, poverty, and pollution. Walton College majors are not eligible to register for the course. No degree credit for Walton College majors.

**ECON 2143H. Honors Basic Economics: Theory and Practice (Sp, Su, Fa). 3 Hours.**

Surveys basic micro, macro principles and analytical tools needed to study contemporary economic problems such as inflation, unemployment, poverty, and pollution. Not open to students majoring in Economics or Business Administration. This course is equivalent to ECON 2143.

**ECON 3033. Microeconomic Theory (Sp, Su, Fa). 3 Hours.**

Nature, scope, and purpose of economic analysis; theories of demand, production, cost, firm behavior, allocation of resources, etc., in a market-oriented system. Prerequisite: (ECON 2013 and ECON 2023) or (ECON 2143) and (MATH 2043 or MATH 2554).

**ECON 3053. Economics for Elementary Teachers (Fa). 3 Hours.**

For students who plan to become teachers in elementary schools. Acquaints students with basic concepts and functioning of the American economic system. Walton College majors are not eligible to register for the course. No degree credit for Walton College majors. Recommended to be completed in the fall semester of junior year. Prerequisite: 40 hours of completed course work.

**ECON 3063. Economics for Secondary Educators (Irregular). 3 Hours.**

Economics for Secondary Educators teaches basic economics understandings equipping students to make sound economics decisions as consumers, investors, voters and savers. Lessons and activities appropriate for secondary classes will be demonstrated. The course will survey materials available for government, economics, world and U.S. history, environmental science, language arts, business education, personal finance and entrepreneurship classes. Walton College majors are not eligible to register for the course. No degree credit for Walton College majors. Recommended to be completed in the fall semester of junior year. Prerequisite: 40 hours of completed course work.

**ECON 3133. Macroeconomic Theory (Sp, Fa). 3 Hours.**

Theoretical determinations of national aggregate employment, income, consumption, investment, price level, etc. Prerequisite: (ECON 2013 and ECON 2023) or ECON 2143) and ((MATH 2043 or MATH 2554)).

**ECON 330V. Economics Study Abroad (Irregular). 3-6 Hour.**

Open to undergraduate students studying abroad in officially sanctioned programs in Economics in the Walton College. Topics vary by location of study abroad opportunities. To be eligible for credit, students must have junior standing and Walton College majors must have completed all pre-business requirements prior to studying abroad. Prerequisite: Departmental consent, Junior standing and completion of pre-business course requirements, each with a grade of C or better, a pre-business cumulative GPA of 2.5 or better and an overall GPA of 2.5 or better.

**ECON 3333. Public Economics (Irregular). 3 Hours.**

Governmental functions, revenues; tax shifting, incidence; public expenditures, their effects; and fiscal policy. Prerequisite: (ECON 2013 and ECON 2023) or ECON 2143.

**ECON 3433. Money and Banking (Irregular). 3 Hours.**

Financial history; theory and practice of financial institutions; monetary policy in theory and practice. Prerequisite: (ECON 2013 and ECON 2023) or ECON 2143.

**ECON 3533. Labor Economics (Fa). 3 Hours.**

Economic analysis of labor markets. Topics include analysis of labor demand and supply; human capital investment; wage differentials; discrimination; economic effects of labor unions and collective bargaining; public sector labor markets; unemployment; and labor market effects on inflation. Prerequisite: (ECON 2013 and ECON 2023) or ECON 2143.

**ECON 3633. Economics of Advertising (Irregular). 3 Hours.**

An examination of how economists define and categorize types of products and advertising campaigns. Alternative views of advertising -- persuasive vs. informative -- are discussed. Models of the relationship between advertising and sales, profits, market structure, product quality, and price are examined. Prerequisite: ECON 2023 or ECON 2143.

**ECON 3843. Economic Development, Poverty & the Role of the World Bank and IMF in Low-Income Countries (Sp, Fa). 3 Hours.**

Examine theories and patterns of economic development in emerging economies. The role of the World Bank and IMF as multilateral lenders and examination of their success and failures in fostering development. Measures of poverty and inequality and their implications for economic development. Prerequisite: (ECON 2013 and ECON 2023) or ECON 2143.

**ECON 3853. Emerging Markets (Fa). 3 Hours.**

An analysis of the business and economic environment in emerging countries; focusing in Latin America, South East Asia and Transition Economies. The topics and issues covered include market structure and market failures, financial and legal background, current institutions and political economy issues, and current business opportunities. Prerequisite: ECON 2143; or ECON 2013 and ECON 2023.

**ECON 3933. The Japanese Economic System (Sp). 3 Hours.**

This class presents essential facts about the Japanese economy and then subjects them to modern economic analyses. Japanese institutions and policies are contrasted with their American counterparts, and these economies are compared in terms of performance. Current issues including contemporary economic conditions and US - Japanese trade relations are also examined. Pre- or Corequisite: ECON 2023. Prerequisite: ECON 2013 or ECON 2143.

**ECON 399VH. Honors Course (Irregular). 1-3 Hour.**

Primarily for students participating in Honors program. May be repeated for up to 6 hours of degree credit.

**ECON 4003H. Honors Economics Colloquium (Fa). 3 Hours.**

Explores events, concepts and/or new developments in the field of Economics. Prerequisite: Senior standing.

**ECON 4033. History of Economic Thought (Sp). 3 Hours.**

Historical, critical analysis of economic theories relative to their instructional background. Prerequisite: (ECON 2013 and ECON 2023) or ECON 2143 or ECON 3053.

**ECON 410V. Special Topics in Economics (Irregular). 1-6 Hour.**

Covers special topics in economics not available in other courses. Prerequisite: (ECON 2013 and ECON 2023) or ECON 2143. May be repeated for up to 6 hours of degree credit.

**ECON 410VH. Honors Special Topics in Economics (Irregular). 1-6 Hour.**

Covers special topics in economics not available in other courses. Prerequisite: (ECON 2013 and ECON 2023) or ECON 2143. May be repeated for up to 6 hours of degree credit. This course is equivalent to ECON 410V.

**ECON 4173. Nation Model United Nations (Fa). 3 Hours.**

This class is designed to prepare students for their participation in a Nation Model United Nations (NMUN) Conference. The NMUN Conference is sponsored by The National Collegiate Conference Association (NCCA), which is the largest college-level Model United Nations conference. This course is designed to advance the research skills of the students by requiring extensive background position papers covering various economic and social issues of their assigned committee and ultimately preparing resolution documents they develop during the conference. They will present their positions via speeches and in caucus settings. This course will broaden the students' international perspective while they gain a thorough understanding of the primary activities of the United Nations. Prerequisite: Junior standing and departmental consent.

**ECON 4333. Economics of Organizations (Fa). 3 Hours.**

An economic perspective on the design of organizations. Applies developments in game theory and contract theory to analyze the role of information and incentives within and between firms. Covers the boundaries of firms, integration and outsourcing, authority and incentives, and alternative organizational structures in an evolving business environment. Prerequisite: (ECON 2013 and ECON 2023) or ECON 2143.

**ECON 4423. Behavioral Economics (Sp). 3 Hours.**

Both economics and psychology systematically study human judgment, behavior, and well-being. This course surveys attempts to incorporate psychology into economics to better understand how people make decisions in economic situations. The course will cover models of choice under uncertainty, choice over time, as well as procedural theories of decision making. Prerequisite: ECON 2023 or ECON 2143.

**ECON 4433. Experimental Economics (Fa). 3 Hours.**

The course offers an introduction to the field of experimental economics. Included are the methodological issues associated with developing, conducting, and analyzing controlled laboratory experiments. Standard behavioral results are examined and the implications of such behavior for business and economic theory are explored. Prerequisite: ECON 2023 or ECON 2143.



**ECON 450V. Independent Study (Irregular). 1-6 Hour.**

Permits students on individual basis to explore selected topics in economics. May be repeated for up to 6 hours of degree credit.

**ECON 4533. China's Foreign Trade and International Order: History, Policy, and Theory (Irregular). 3 Hours.**

This interdisciplinary course explores China's foreign trade and international order by introducing students to the historical context and economic theory necessary for understanding China's role in the international trading system from the ancient past to the contemporary era. Prerequisite: (ECON 2013 and ECON 2023) or ECON 2143.

This course is cross-listed with HIST 4533, PLSC 4533.

**ECON 4633. International Trade (Sp, Fa). 3 Hours.**

Problems of the international economy from a microeconomic perspective. Topics include analysis of the pattern and content of trade; trade in factors of production; and the applications of trade theory to the study of trade barriers such as tariffs and quotas. Prerequisite: (ECON 2013 and ECON 2023) or ECON 2143.

**ECON 4643. International Macroeconomics and Finance (Sp, Fa). 3 Hours.**

Problems of the international economy from a macroeconomic perspective. Topics include national income accounting and the balance of payments; exchange rates and the foreign exchange markets; exchange rate policy; macroeconomic policy coordination; developing countries and the problem of 3rd world debt; and the global capital market. Prerequisite: (ECON 2013 and ECON 2023) or ECON 2143.

**ECON 468V. International Economics and Business Seminar (Irregular). 1-6 Hour.**

Offered primarily in conjunction with international study abroad programs with an emphasis on international economics and business. Prerequisite: (ECON 2013 and ECON 2023) or ECON 2143. May be repeated for up to 6 hours of degree credit.

**ECON 4743. Introduction to Econometrics (Sp). 3 Hours.**

Introduction to the application of statistical methods to problems in economics. Prerequisite: ((ECON 2013 and ECON 2023) or ECON 2143) and ((MATH 2043 or MATH 2554 or higher)) and (WCOB 1033 or STAT 2303).

**ECON 4753. Forecasting (Fa). 3 Hours.**

The application of forecasting methods to economics, management, engineering, and other natural and social sciences. The student will learn how to recognize important features of time series and will be able to estimate and evaluate econometric models that fit the data reasonably well and allow the construction of forecasts. Prerequisite: (ECON 2013 and ECON 2023) or (ECON 2143) and (MATH 2043 or MATH 2554) and (WCOB 1033 or STAT 2303).

**ECON 5243. Economics of Supply Chain & Retail (Sp). 3 Hours.**

This course will provide students with a strong foundation in core economics principles, with emphasis on industrial organization issues and applications geared toward the supply-chain and retail focus of the redesigned MBA program.

**ECON 5253. Economics of Management and Strategy (Irregular). 3 Hours.**

Information economics and applied game theory.

**ECON 5373. Global Business (Su). 3 Hours.**

Integrated overview of the global business environment and the organizational challenges of a multinational firm. To enhance understanding of the business and cultural environment of prominent emerging markets, the course includes a 2-3 week overseas immersion project to fulfill a predefined goal. Project is integrated with global content upon return.

This course is cross-listed with MGMT 5373.

**ECON 5853. International Economics Policy (Irregular). 3 Hours.**

An intensive analysis of the operation of the international economy with emphasis on issues of current policy interest.

**ECON 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Master's Thesis. May be repeated for degree credit.

**ECON 6133. Mathematics for Economic Analysis (Su). 3 Hours.**

This course will develop mathematical and statistical skills for learning economics and related fields. Topics include calculus, static optimization, real analysis, linear algebra, convex analysis, and dynamic optimization. Prerequisite: Graduate standing and MATH 2554 or equivalent.

**ECON 6213. Microeconomic Theory I (Fa). 3 Hours.**

Introductory microeconomic theory at the graduate level. Mathematical formulation of the consumer choice, producer behavior, and market equilibrium problems at the level of introductory calculus. Discussion of monopoly, oligopoly, public goods, and externalities.

**ECON 6223. Microeconomic Theory II (Sp). 3 Hours.**

Advanced treatment of the central microeconomic issues using basic real analysis. Formal discussion of duality, general equilibrium, welfare economics, choice under uncertainty, and game theory.

**ECON 6313. Macroeconomic Theory I (Fa). 3 Hours.**

Theoretical development of macroeconomic models that include and explain the natural rate of unemployment hypothesis and rational expectations, consumer behavior, demand for money, market clearing models, investment, and fiscal policy.

**ECON 6323. Macroeconomic Theory II (Sp). 3 Hours.**

Further development of macroeconomic models to include uncertainty and asset pricing theory. Application of macroeconomic models to explain real world situations.

**ECON 636V. Special Problems in Economics (Sp, Su, Fa). 1-6 Hour.**

Independent reading and investigation in economics. May be repeated for up to 9 hours of degree credit.

**ECON 643V. Seminar in Economic Theory and Research I (Fa). 1-3 Hour.**

May be repeated for up to 6 hours of degree credit.

**ECON 644V. Seminar in Economic Theory and Research II (Sp). 1-3 Hour.**

Independent research and group discussion.

**ECON 6533. Seminar in Advanced Economics I (Irregular). 3 Hours.**

This seminar will cover advanced fields of current research importance in economics. This will facilitate the development of research directions for doctoral study and research. Prerequisite: Graduate standing.

**ECON 6543. Seminar in Advanced Economics II (Irregular). 3 Hours.**

This seminar will cover advanced fields of current research importance in economics. This will facilitate the development of research directions for doctoral study and research. Prerequisite: Graduate standing.

**ECON 6613. Econometrics I (Fa). 3 Hours.**

Use of economic theory and statistical methods to estimate economic models. The single equation model is examined emphasizing multicollinearity, autocorrelation, heteroskedasticity, binary variables and distributed lags. Prerequisite: MATH 2043 and knowledge of matrix methods, which may be acquired as a corequisite, and ECON 2023, and an introductory statistics course or equivalent.

**ECON 6623. Econometrics II (Sp). 3 Hours.**

Use of economic theory and statistical methods to estimate economic models. The treatment of measurement error and limited dependent variables and the estimation of multiple equation models and basic panel data models will be covered. Additional frontier techniques may be introduced. Prerequisite: ECON 6613.

**ECON 6633. Econometrics III (Sp). 3 Hours.**

Use of economic theory and statistical methods to estimate economic models. Nonlinear and semiparametric/nonparametric methods, dynamic panel data methods, and time series analysis (both stationary and nonstationary processes) will be covered. Additional frontier techniques may be covered. Prerequisite: ECON 6613.

**ECON 6713. Industrial Organization I (Fa). 3 Hours.**

This course will develop the theory of modern industrial organization. The latest advances in microeconomic theory, including game theory, information economics and auction theory will be applied to understand the behavior and organization of firms and industries. Theory will be combined with empirical evidence on firms, industries and markets. Prerequisite: ECON 6213 and ECON 6223.

**ECON 6723. Industrial Organization II (Sp). 3 Hours.**

This course surveys firm decisions, including setting prices, choosing product lines and product quality, employing price discrimination, and taking advantage of market structure. It will also cover behavioral IO, which reconsiders the assumption that firms and consumers are perfectly rational and examines the role of regulation. Prerequisite: ECON 5233.

**ECON 6833. International Development I (Fa). 3 Hours.**

A first graduate level course in development economics with a focus on foundational theoretical issues. We explore the causation, implications, and remedies for pervasive and persistent poverty in low-income countries. Emphasis will be primarily on microeconomics topics. May be taken either as a precursor to International Development Economics II or stand-alone. Prerequisite: ECON 6213, (ECON 6613 or AGE 5613) or by instructor's permission.

**ECON 6843. International Development II (Sp). 3 Hours.**

A second graduate level course in development economics that focuses on the empirical aspect of development in low-income countries. The course explores various microeconomics topics related to poverty, human capital accumulation, and their interactions with role of public policy. Prerequisite: ECON 5533, (ECON 5613 or AGE 5613) or by instructor's permission.

**ECON 6913. Experimental Economics (Fa). 3 Hours.**

The course develops advanced concepts in the use of controlled experiments to test economic theory and explore behavioral regularities relating to economics. The class focuses on the methodology of experimental economics while reviewing a variety of established results. Prerequisite: ECON 5533.

**ECON 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Doctoral Dissertation. Prerequisite: Candidacy. May be repeated for degree credit.

## Education (EDHP)

### Courses

**EDHP 1001. Freshman Seminar (Fa). 1 Hour.**

The course is designed to support and assist freshmen in becoming successful, self-directed learners. Focus will be upon campus resources to help learners accomplish this goal and upon strategies for successful learning. The course will meet twice a week for the first eight weeks. Students will receive one hour of ungraded credit or a grade of F.

**EDHP 1012. College Learning I (Sp, Fa). 2 Hours.**

EDUC 1012 supports students as they make the transition into a university environment. The focus is on developing and applying college-level thinking and learning skills to specific University courses and on developing a student support base through a class learning community. The course is required for students admitted provisionally to the University.

**EDHP 1201. Inquiry Approaches to Teaching: UAteach Step I (Fa). 1 Hour.**

For students exploring teaching as a career. Following an introduction to the theory and practice behind inquiry-based science and mathematics instruction, students teach lessons in elementary classrooms to obtain firsthand experience in planning and implementation.

This course is cross-listed with ARSC 1201.

**EDHP 1600. Undergraduate Research Assistant (Sp, Su, Fa). 0 Hours.**

Undergraduate research.

**EDHP 2600. Undergraduate Research Assistant (Sp, Su, Fa). 0 Hours.**

Undergraduate research.

**EDHP 3003. Seminar in Education (Irregular). 3 Hours.**

This course provides a seminar experience on a topic in the field of education. The topics covered vary by semester and offering, but might include leadership, issues in public education, educational politics and finance, and trends in education. May be repeated for up to 6 hours of degree credit.

**EDHP 3013. Introduction to Human Wellness Studies (Fa). 3 Hours.**

This seminar provides an overview of Human Wellness Studies as an academic major and the primary constructs that comprise how different populations approach the idea of wellness.

**EDHP 3103. Seminar in Health Professions (Irregular). 3 Hours.**

This course provides a seminar experience on a topic in the field of health professions. The topics covered vary by semester and offering, but might include leadership, issues in public health, the politics and financing of American health, and trends in health professions.

**EDHP 3600. Undergraduate Research Assistant (Sp, Su, Fa). 0 Hours.**

Undergraduate research.

**EDHP 3923H. Honors Education Seminar (Irregular). 3 Hours.**

Special topics or issues in education for the Honors student. Prerequisite: Honors candidacy. May be repeated for degree credit.

**EDHP 4600. Undergraduate Research Assistant (Sp, Su, Fa). 0 Hours.**

Undergraduate research.

## Education Reform (EDRE) Courses

**EDRE 4913H. Honors Social Studies through Fiction (Fa). 3 Hours.**

As common references to utopian schemes and Orwellian newspeak show, some of the most important works of politics are fictional. This course explores classic and contemporary works of political fiction, to better understand recent political history and such concepts as power, freedom, totalitarianism, discrimination, and social class.

**EDRE 498VH. Honors Seminar (Irregular). 1-3 Hour.**

Topics vary by instructor.

**EDRE 499V. Special Topics in Education Policy (Irregular). 1-3 Hour.**

Topics vary by instructor. May be repeated for up to 6 hours of degree credit.

**EDRE 5053. Philosophy and History of Education and Education Reform (Even years, Sp). 3 Hours.**

This course traces the historical development of the philosophical debates concerning education and its role in society as well as how those ideas and consequent demands for reform affected the educational system and its structures.

**EDRE 559V. Field Research (Irregular). 1-6 Hour.**

Directed graduate-level field research in education policy settings. Prerequisite: Approval of EDRE Graduate Director. May be repeated for up to 6 hours of degree credit.

**EDRE 6023. Economics of Education (Odd years, Sp). 3 Hours.**

This course applies the principles of economic analysis to education and education reform. Topics include: Human capital and signaling theories; education labor markets; educational production functions; public policy and market forces. The course also features empirical evidence evaluating economic theories of education.

**EDRE 6033. Politics of Education (Fa). 3 Hours.**

This course explores historical and institutional forces that help shape education policymaking. Particular attention will be paid to the experience of past education reform movements as well as the influence of interest groups, federalism, bureaucracy, governance structures, public opinion, and judicial review on education policy.

**EDRE 6043. Finance and Education Policy (Even years, Sp). 3 Hours.**

This course examines K-12 education finance from the standpoint of education reform policy. The tools of analysis include economics, public finance, law and political science. Topics include: revenue sources and fiscal federalism, standards-based reform and school finance, school funding formulas, adequacy lawsuits, the politics of school funding, school funding and markets. The course also features empirical evidence on the educational impact of education finance.

**EDRE 6053. Measurement of Educational Outcomes (Fa). 3 Hours.**

This course will train students to consider the various types of outcome and assessment measures used for education at the K-12 level throughout the United States; further, the students will engage in analyses of research that relies on these various outcome measures.

**EDRE 6103. Quantitative Analytical Techniques for Education Policy (Fa). 3 Hours.**

This course introduces students to the quantitative techniques required for the evaluation of education policies and interventions. The class will focus on the identification and estimation of causal effects, necessary assumptions, and how to deal with the failure of these assumptions. Major topics covered include randomized experiments, the ordinary least squares regression method, matching estimators, instrumental variable methods, regression discontinuity, difference in difference methods, and introduction to estimation strategies with panel data models.

**EDRE 6113. Advanced Quantitative Analytical Techniques for Education Policy (Odd years, Sp). 3 Hours.**

This course introduces students to advanced estimation methods and empirical models often used in education policy empirical research, such as Maximum Likelihood to estimate discrete choice models, censored models and selection models, duration models, Generalized Method of Moments to estimate dynamic panel data models, and bootstrapping of standard errors and simulation-based inference. Prerequisite: EDRE 6103.

**EDRE 6213. Program Evaluation and Research Design (Fa). 3 Hours.**

This course provides students with training in the methods used to generate evidence-based answers to questions regarding the efficacy and impacts of education programs. The central questions that motivate most educational program evaluations are: (1) What is the problem? (2) What policies or programs are in place to address the problem? (3) What is their effect? (4) What works better? (5) What are the relative benefits and costs of alternatives? This course is cross-listed with ESRM 6613.

**EDRE 6223. Research Seminar in Education Policy (Fa). 3 Hours.**

This course provides students with the opportunity to learn about education policy research by interacting directly with the leading scholars and practitioners in the field. Students will also gain a foundation in the field of education policy research by reading and discussing some of the founding works of the field.

**EDRE 636V. Special Problems (Irregular). 1-6 Hour.**

Independent reading and investigation in education policy under faculty supervision. Prerequisite: Approval of EDRE Graduate Director. May be repeated for up to 6 hours of degree credit.

**EDRE 6413. Issues in Education Policy (Sp). 3 Hours.**

This course examines how K-12 education policy is designed and implemented in the United States. Students will develop a working knowledge of policymaking frameworks to examine major education policies of current interest and debate key policy issues that arise at each level of government. In great measure, the goals of the course will be accomplished through the consideration of opposing stances on key educational policy debates and issues that are of current import. This course is cross-listed with EDFD 5683.

**EDRE 6423. Seminar in School Choice Policy (Even years, Fa). 3 Hours.**

This course examines parental school choice - perhaps the most controversial education reform of our age. Students will be introduced to the full set of school choice policies, including charter schools and vouchers, and evaluate their benefits and drawbacks as educational interventions.

**EDRE 6433. Seminar in Education Accountability Policy (Odd years, Sp). 3 Hours.**

This course examines K-12 school and district accountability under state and Federal law (e.g. NCLB), as well as teacher and student accountability (e.g. exit exams). Topics include the theory of incentives and politics of tradeoffs, measurement issues of policy implementation, and statistical evidence on policy effects on performance.

**EDRE 6443. Seminar in Education Leadership Policy (Odd years, Fa). 3 Hours.**

This course will examine the individual and systemic prerequisites of effective leadership of schools and school systems, and effective leadership techniques. It will consider the differences between public and private sector leadership. It will also explore ways to identify effective and ineffective leaders, and design and evaluate systems to recruit and train the former and reassign the latter.

**EDRE 6453. Seminar in Teacher Quality and Public Policy (Even years, Sp). 3 Hours.**

Examines how our public system of education shapes the preparation and continued professional development of K-12 teachers, and how that system has been influenced by standards-based education reform as well as efforts to enhance the quality of teaching and learning in public schools. Uses education reform legislation in several states as case studies to illustrate the successes and pitfalls of attempts to reform teacher education and licensure through public policy.

**EDRE 674V. Internship in Education Policy (Irregular). 1-6 Hour.**

Internship at a public or private entity involved in the making or implementation of education policy. Paper required on a significant aspect of the internship experience. Prerequisite: Approval of EDRE Graduate Director.

**EDRE 699V. Special Topics (Irregular). 1-3 Hour.**

Topics vary depending on instructor. Prerequisite: Approval of EDRE Graduate Director. May be repeated for up to 9 hours of degree credit.

**EDRE 700V. Doctoral Dissertation (Irregular). 1-18 Hour.**

Doctoral Dissertation. Prerequisite: Candidacy. May be repeated for degree credit.

## Educational Foundations (EDFD) Courses

**EDFD 5303. Historical Foundations of Modern Education (Sp, Su). 3 Hours.**

Critical analysis and interpretation of the historical antecedents of contemporary education, focusing upon the American experience from the colonial period to the present.

**EDFD 5353. Philosophy of Education (Irregular). 3 Hours.**

Introduction to the method and attitude essential to effective analysis and interpretation of issues and values within a society reflecting cultural, ethnic, gender, and global diversity. Prerequisite: Graduate standing.

**EDFD 5373. Psychological Foundations of Teaching and Learning (Irregular). 3 Hours.**

Psychological principles and research applied to classroom learning and instruction. Social, emotional, and intellectual factors relevant to topics such as readiness, motivation, discipline, and evaluation in the classroom.

**EDFD 5573. Life-Span Human Development (Sp, Su, Fa). 3 Hours.**

Basic principles of development throughout the human life-cycle. Physical, cognitive, social, emotional, and personality development.

**EDFD 5673. Principles of Motivation (Sp). 3 Hours.**

This course focuses on theories and concepts of human motivation. Students explore what motivates students to learn and examine strategies, techniques, and interventions that promote and sustain learner motivation.

**EDFD 5683. Issues in Educational Policy (Sp, Su, Fa). 3 Hours.**

This course examines how K-12 education policy is designed and implemented in the United States. Students will develop a working knowledge of policymaking frameworks to examine major education policies of current interest and debate key policy issues that arise at each level of government. This course is cross-listed with EDRE 6413.

**EDFD 5773. Advanced Topics in Educational Psychology (Even years, Fa). 3 Hours.**

This course provides an opportunity for advanced study of socio-cognitive variables that play a crucial role in working in administration, teaching, and the evaluation of the success of students and academic programs. Prerequisite: ESRM 6403 and EDFD 5373.

## Educational Leadership (EDLE) Courses

**EDLE 5003. Schools and Society (Even years, Su). 3 Hours.**

Schools and Society is an introduction to the social, structural, political and historical forces that have created the American school system.

**EDLE 5013. School Organization and Administration (Odd years, Su) (Fa). 3 Hours.**

Analysis of structure and organization of American public education; fundamental principles of school management and administration.

**EDLE 5023. The School Principalship (Sp, Su). 3 Hours.**

Duties and responsibilities of the public school building administrator; examination and analysis of problems, issues, and current trends in the theory and practice of the principalship.

**EDLE 5033. Psychology of Learning (Sp) (Odd years, Su). 3 Hours.**

This course prepares educational leaders to create and sustain a learning centered environment in school settings. Students will study learning theory across the lifespan and apply it to the practice of instructional leadership, curriculum design, and staff development.

**EDLE 5043. Leadership Ethics (Odd years, Su) (Fa). 3 Hours.**

Leadership Ethics is an experiential based course grounded in ethical decision making theory that uses case study and practice to study school based ethical dilemmas.

**EDLE 5053. School Law (Odd years, Su) (Fa). 3 Hours.**

Legal aspects of public and private schooling: federal and state legislative statutes and judicial decisions, with emphasis upon Arkansas public education.

**EDLE 5063. Instructional Leadership, Planning, and Supervision (Odd years, Su) (Fa). 3 Hours.**

Instructional Leadership, Planning, and Supervision is designed to prepare practitioners to seize the role of educational leader at the school site level through the development of a vision that will be used to drive a data driven instructional school plan.

**EDLE 5073. Research for Leaders (Sp) (Odd years, Su). 3 Hours.**

This course introduces research methodology that will support school leaders as consumers of educational research and supervisors of action research within their schools. Practical application of research for school leaders is emphasized.

**EDLE 5083. Analytical Decision-Making (Sp) (Even years, Su). 3 Hours.**

Analytical Decision Making is a performance based examination of the principles and practices related to the building administrator's role in the development, administration, and evaluation of curricular programs in public schools. This includes creating a school culture, fostering communication, aligning curriculum with state mandated standards, and staff development.

**EDLE 5093. Effective Leadership for School Improvement (Sp, Su). 3 Hours.**

A performance based examination of strategic planning, group facilitation and decision-making, organizational behavior and development, professional ethics and standards, student services administration, and principles of effective leadership.

**EDLE 574V. Internship (Sp, Su, Fa). 1-6 Hour.**

Supervised in-school/district experiences individually designed to afford opportunities to apply previously-acquired knowledge and skills in administrative workplace settings. May be repeated for up to 3 hours of degree credit.

**EDLE 599V. Seminar (Sp, Su, Fa). 1-6 Hour.**

Important foundational topics in educational leadership that are current and critical will be taught in this Master's-level seminar. Topics range from the psychology of learning and leading to how schools and society interact in the 21st century. May be repeated for up to 6 hours of degree credit.

**EDLE 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Master's Thesis. May be repeated for degree credit.

**EDLE 6023. School Facilities Planning and Management (Odd years, Fa). 3 Hours.**

School facilities planning, management, cost analysis, operations, and maintenance of the school plant.

**EDLE 6053. School-Community Relations (Even years, Sp). 3 Hours.**

Community analysis, politics and education; power groups and influences; school issues and public responses; local policy development and implementation; effective communication and public relations strategies.

**EDLE 605V. Independent Study (Sp, Su, Fa). 1-6 Hour.**

May be repeated for up to 6 hours of degree credit.

**EDLE 6093. School District Governance: The Superintendency (Even years, Fa). 3 Hours.**

Analysis of the organizational and governance structures of American public education at national, state, and local levels.

**EDLE 6103. School Finance (Odd years, Sp). 3 Hours.**

Principles, issues and problems of school funding formulae and fiscal allocations to school districts.

**EDLE 6173. School Business Management (Odd years, Su). 3 Hours.**

Fiscal and resource management in public schools: budgeting, insurance, purchasing, and accounting.

**EDLE 6333. Advanced Legal Issues in Education (Even years, Fa). 3 Hours.**

The examination and discussion of advanced legal issues affecting public school education. Prerequisite: Advanced graduate standing.

**EDLE 6433. Legal Aspects of Special Education (Irregular). 3 Hours.**

A study of litigation and legislation in special education, federal and state laws and court cases, and due process hearings.

This course is cross-listed with SPED 6433.

**EDLE 6503. Topics in Educational Research for School Administration (Odd years, Fa). 3 Hours.**

Application of educational research in the school setting by educational administrators. Emphasis placed on the use of state and local school or district data, data analysis, interpretation and reporting, hands-on experience with SPSS, and the formal process of writing a research report. Prerequisite: Advanced graduate standing.

**EDLE 6513. Program Evaluation in Education (Su). 3 Hours.**

Program Evaluation in Education is designed to introduce students to concepts and methods of policy and program evaluation. Emphasis will be placed on preparing educational leadership students to conduct a program evaluation specialist project or dissertation.

**EDLE 6523. Advanced Application of Educational Leadership (Odd years, Su). 3 Hours.**

A review of seminal and current works on leadership as applied to the educational setting. Provides knowledge of classic and contemporary strategies for leadership.

**EDLE 6533. Educational Policy (Odd years, Sp). 3 Hours.**

Examination of the research and theory related to the evolution of local, state, and federal governance and educational policy. Emphasis given to the consideration of procedures involving policy formulation, implementation, and analysis.

**EDLE 6543. Introduction to Qualitative Research (Fa). 3 Hours.**

This course offers an introduction to the qualitative approach to research in the Social Sciences. In particular, this course focuses on initial qualitative research designs that support planning, problem solving, and evaluation for educational leaders. Developing a conceptual framework, gaining an initial understanding of the methods of data collection and analysis, and establishing credibility in qualitative research are discussed. This course will be taught online using Blackboard and will require synchronous online class meetings that will require a webcam and microphone.

**EDLE 6553. Advanced Qualitative Methods in Educational Research (Sp). 3 Hours.**

This course has been designed to provide graduate students with a more in-depth understanding of qualitative research methods. Emphasis will be placed on preparing educational leadership students to design a qualitative or mixed-method dissertation study. Prerequisite: ESRM 6543 or HRWD 572V.

**EDLE 6563. Advanced Data Collection for Program Evaluation (Odd years, Fa). 3 Hours.**

This course is designed to provide graduate students with an in-depth understanding of how to effectively collect data for a program evaluation. Emphasis will be placed on guiding educational leadership students through the data collection procedures they will use for their dissertation. Prerequisite: ESRM 6543 or EDLE 6553.

**EDLE 6573. Advanced Empirical Analysis for Program Evaluation (Sp). 3 Hours.**

This course is designed to provide graduate students with an in-depth understanding of how to effectively analyze data for a program evaluation. Emphasis will be placed on guiding educational leadership students through the data analysis procedures they will use for their dissertation. Prerequisite: EDLE 6563.

**EDLE 674V. Internship (Sp, Su, Fa). 1-6 Hour.**

May be repeated for up to 6 hours of degree credit.

**EDLE 680V. Educational Specialist Project (Sp, Su, Fa). 1-6 Hour.**

An original project, research project, or report required of all Ed.S. Degree candidates. Prerequisite: Admission to the Ed.S. program.

**EDLE 699V. Seminar (Sp, Su, Fa). 1-6 Hour.**

Prerequisite: Advanced graduate standing. May be repeated for up to 6 hours of degree credit.

**EDLE 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Doctoral Dissertation. Prerequisite: Candidacy. May be repeated for degree credit.

## Educational Statistics and Research Methods (ESRM) Courses

**ESRM 2403. Statistics in Nursing (Sp, Su, Fa). 3 Hours.**

Introduction to descriptive and inferential statistics used in nursing research.

**ESRM 5013. Research Methods in Education (Sp, Su, Fa). 3 Hours.**

General orientation course which considers the nature of research problems in education and the techniques used by investigators in solving those problems. Prerequisite: graduate standing.

**ESRM 5393. Statistics in Education and Health Professions (Sp, Su, Fa). 3 Hours.**

Applied statistics course for Master's degree candidates. Includes concepts and operations for frequency distributions, graphing techniques, measures of central tendency and variation, sampling, hypothesis testing, and interpretation of statistical results.

**ESRM 5653. Educational Assessment (Irregular). 3 Hours.**

Introduction to measurement issues and basic test theory. Focus on types and usage of assessment tools, data management, and analysis and interpretation of educational data. Practical training in the utilization and interpretation of academic achievement data in Arkansas.

**ESRM 599V. Seminar (Irregular). 1-6 Hour.**

May be repeated for up to 6 hours of degree credit.

**ESRM 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Master's Thesis. May be repeated for degree credit.

**ESRM 605V. Independent Study (Sp, Su, Fa). 1-6 Hour.****ESRM 6403. Educational Statistics and Data Processing (Sp, Su, Fa). 3 Hours.**

Theory and application of frequency distributions, graphical methods, central tendency, variability, simple regression and correlation indexes, chi-square, sampling, and parameter estimation, and hypothesis testing. Use of the computer for the organization, reduction, and analysis of data (required of doctoral candidates). Prerequisite: ESRM 5013 or equivalent.

**ESRM 6413. Experimental Design in Education (Sp). 3 Hours.**

Principles of experimental design as applied to educational situations. Special emphasis on analysis of variance techniques used in educational research. Prerequisite: ESRM 6403 or equivalent.

**ESRM 6423. Multiple Regression Techniques for Education (Fa). 3 Hours.**

Introduction to multiple regression procedures for analyzing data as applied in educational settings, including multicollinearity, dummy variables, analysis of covariance, curvi-linear regression, and path analysis. Prerequisite: ESRM 6403.

**ESRM 6453. Applied Multivariate Statistics (Sp). 3 Hours.**

Multivariate statistical procedures as applied to educational research settings including discriminant analysis, principal components analysis, factor analysis, canonical correlation, and cluster analysis. Emphasis on use of existing computer statistical packages. Prerequisite: ESRM 6413.

**ESRM 6513. Hierarchical Linear Modeling (Even years, Fa). 3 Hours.**

This course covers the theory and applications of hierarchical linear modeling (HLM) also known as multilevel modeling. Both the conceptual and methodological issues for analyses of nested (clustered) data in using HLM will be reviewed, including linear models, non-linear models, growth models, and some alternative designs. Prerequisite: ESRM 6413 and ESRM 6423.

**ESRM 6523. Structural Equation Modeling (Sp). 3 Hours.**

This course provides a detailed introduction to structural equation modeling (SEM) based on students' previous knowledge of multiple linear regression. Topics include path analysis, confirmatory factor analysis, full latent variable models, estimation techniques, data-model fit analysis, model comparison, and other topics, potentially equivalent models, specification searches, latent mean models, parameter invariance, multi-group models, and models of discrete data. Prerequisite: ESRM 6423.

**ESRM 6533. Qualitative Research (Sp, Fa). 3 Hours.**

Introduction of non-quantitative methods, including data collection through interviews, field observation, records research, internal and external validity problems in qualitative research. Prerequisite: ESRM 6403.

**ESRM 6543. Advanced Qualitative Research (Sp). 3 Hours.**

Preparation for the conduct of qualitative research, structuring, literature reviews, data collection and analysis, and reporting results. Prerequisite: ESRM 6533. May be repeated for up to 6 hours of degree credit.

**ESRM 6553. Advanced Multivariate Statistics (Even years, Sp). 3 Hours.**

Builds on the foundation provided in Multivariate and introduces techniques that extend methodological elements of canonical, discriminant, factor analytic, and longitudinal analyses, providing the mathematical and theoretical foundations necessary for these designs. Prerequisite: ESRM 6453.

**ESRM 6613. Evaluation of Policies, Programs, and Projects (Fa). 3 Hours.**

Introduction to evaluation in social science research, including why and how evaluations of programs, projects, and policies are conducted; includes analysis of actual evaluations in a variety of disciplines. Prerequisite: ESRM 6403. This course is cross-listed with EDRE 6213.

**ESRM 6623. Techniques of Research in Education (Sp, Su). 3 Hours.**

Use of scientific method in attacking educational problems. Emphasis placed on the planning and design of research studies, collection of reliable and valid data, sampling methods, and analysis and interpretation of data. Prerequisite: ESRM 6403.

**ESRM 6633. Survey Research Methods (Even years, Sp). 3 Hours.**

The course addresses all phases of conducting a survey research study, including conceptualization, sample selection, instrument development, and analysis and reporting of findings. Prerequisite: ESRM 6403.

**ESRM 6653. Measurement and Evaluation (Fa). 3 Hours.**

Fundamentals of measurement: scales, scores, norms, reliability, validity. Test and scale construction and item analysis. Standardized measures and program evaluation models in decision making. Prerequisite: ESRM 6403.

**ESRM 668V. Practicum in Research (Irregular). 1-6 Hour.**

Practical experience in educational research on campus, in school systems, or in other agencies in educational program development.

**ESRM 6753. Item Response Theory (Odd years, Sp). 3 Hours.**

Topics of measurement in the psychometric field focusing on item response theory; item level and test level analyses including differential item functioning, test dimensionality, computer adaptive testing, equating, and general evaluation and usage of measurement instruments. Prerequisite: ESRM 6653.

**ESRM 699V. Seminar (Irregular). 1-6 Hour.**

Prerequisite: advanced graduate standing. May be repeated for up to 6 hours of degree credit.

**ESRM 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Doctoral Dissertation. Prerequisite: Candidacy. May be repeated for degree credit.

## Educational Studies (EDST)

### Courses

**EDST 3023. Internship in Educational Studies (Sp, Su, Fa). 3 Hours.**

The internship is a prearranged onsite work experience serving in an educationally related field. Internships may be served at a variety of public or private based educational services or agencies. The internship experience must include a minimum number of practical work hours (120), reflective journaling, mid-semester evaluation, and final report. All arrangements for internships should be coordinated through the COEHP Office of Field Placement must be approved prior to the start of the semester by the Educational Studies program coordinator and Director of Field Placement. State of Arkansas background checks may be required for individuals completing internships at locations serving populations of minors. Prerequisite: Junior standing and EDSTBS majors only. May be repeated for up to 9 hours of degree credit.

**EDST 3113. Legal & Historical Developments in Education (Fa). 3 Hours.**

This lecture provides an overview of issues in the field of education coming out of political and legal developments in the United States over the last two centuries. Special interest is paid to educational legislation, case law, and global comparative education.

**EDST 3203. Multicultural Education Issues (Fa). 3 Hours.**

The purpose of this course is to give pre-service educators an opportunity to explore various facets of multiculturalism and their implications for future practice. We will examine the impact of race, class, gender, sexual orientation, religion, and other aspects of social group identities on teaching and learning as they relate to contexts in multiple learning environments. While this course is broad in scope, the primary aim is to assist future educators in exploring what it means to be an educator in a society that is multicultural, within a vast educational system (public and private) which is stratified according to multiple factors. Students should not be enrolled in EDST 3203 & CIED 4403 during the same semester. Pre- or Corequisite: EDST 3113 or instructor consent for non-EDSTBS student.

**EDST 3223. American Educational History (Sp). 3 Hours.**

This course is designed to offer a comprehensive study of the history of the American education system. Students completing this course will be able to document the diverse and often competing influences into what has become the public school structure, as well as, the second system of American schools, parochial schools, arising out of the schooling conflict of the 1880's. Starting with the development of literacy skills and the formation of township or colony schools, the lineage of schooling will be investigated from the late 1600's to the present time. Prerequisite: EDST 3113 or instructor consent for non-EDSTBS majors. HISTBA or AMSTBA may waive EDST 3113.

**EDST 3333. Children's & Young Adult Literature in Educational Settings (Fa). 3 Hours.**

This course provides a comprehensive overview of children's, adolescent, and young adult literature across educational settings, both formal and informal. Picture books, novels, informational texts, and the novelization of movies and vice versa for children and adolescent audiences will be explored. This course is not part of the K-6 license program.

**EDST 399V. Special Topics in Educational Studies (Irregular). 1-3 Hour.**

Discussion and advanced studies on selected topics in educational studies. Special focus on recent and emerging topics in education. Junior (3000) level course offerings. May be repeated for up to 9 hours of degree credit.

**EDST 399VH. Honors Special Topics in Educational Studies (Irregular). 1-3 Hour.**

Discussion and advanced studies on selected topics in educational studies. Special focus on recent and emerging topics in education. Junior (3000) level course offerings. May be repeated for up to 9 hours of degree credit.

**EDST 4003. Philosophy and Inquiry in Education (Sp). 3 Hours.**

This course provides a review of philosophical ideas in education and an introduction to research, methodologies, foundation theories in education. Students explore historical ideas in philosophy pertaining to education and how those ideas contribute to current educational practices. Students in the course learn about the nature of research, both theoretical and applied, and the process of developing future research based agendas. Prerequisite: EDST 3113 and EDST 4113.

**EDST 4003H. Honors Philosophy & Inquiry in Education (Sp). 3 Hours.**

This course provides a review of philosophical ideas in education and an introduction to research, methodologies, foundation theories in education. Students explore historical ideas in philosophy pertaining to education and how those ideas contribute to current educational practices. Students in the course learn about the nature of research, both theoretical and applied, and the process of developing future research based agendas. Prerequisite: EDST 3113 and EDST 4113 and honors standing or instructor consent.

**EDST 4013. Capstone Seminar and Final Internship in Education (Sp, Su, Fa). 3 Hours.**

The capstone course provides students with a culminating experience for Educational Studies. The course provides an opportunity for students to develop a portfolio of their learning and to evaluate their overall program performance in preparation for completion of their degrees. This course contains 100 hours of internship experience and will serve as the final internship experience for EDSTBS majors. This course includes 20 hours of coursework along with the required internship experience. This course should only be enrolled in after the completion of two EDST 3023 internship and during the students final year or coursework. Prerequisite: EDSTBS major, senior standing in EDSTBS program, and completion of 6 hours of EDST 3023.

**EDST 4113. Teaching and Funding Outdoor & Informal Education (Sp). 3 Hours.**

In-depth exploration of natural/outdoors education and informal education and grant writing for education will be covered. Methods and techniques in the preparation and delivery of teaching in nontraditional instructional settings (informal education) will be developed. Course participants will be required to teach an outdoor and/or informal education class and participate in a collaborative grant application process. Prerequisite: EDST 3113.

**EDST 4213. Religion, Education, & Religious Education (Fa). 3 Hours.**

This course provides a comprehensive introduction on the influences of religion in education, particularly in relation to the dynamic of religion in public education in the United States. Students in the course learn about the nature of the study of religion, religious studies, and religious education, as well as the teaching of religion. Prerequisite: EDST 3113, EDST 3223, and EDST 4113 or instructor consent.

## Educational Technology (ETEC) Courses

**ETEC 5203. Foundations of Educational Technology (Sp, Su). 3 Hours.**

Provides learners with a comprehensive survey of the major trends, issues, people, processes, and products that have significantly affected the evolution of the field of educational technology.

**ETEC 5213. Educational Media (Sp, Su, Fa). 3 Hours.**

Instruction in selecting, utilizing and evaluating instructional materials and equipment. Prerequisite: Graduate standing.

**ETEC 5243. Instructional Design Theory & Models (Fa). 3 Hours.**

A study of the instructional development process as it pertains to the design and production of instructional materials which use modern technologies. Goal analysis, objectives, evaluation, instructional strategy development, production of an educational product, and revision of the instructional materials are considered. Prerequisite: Graduate standing.

**ETEC 5253. Information Technologies (Irregular). 3 Hours.**

Students perform intensive examinations of the role of new technologies and their implications for instructional practice. Emphasis is on identification and evaluation of new technologies in instructional environments. Establishing and maintaining learning environments, exploring selected theories and concepts, assessing potential uses of IT, and utilization of new technologies will occur.

**ETEC 5263. Grant Writing in Instructional Technology (Su, Fa). 3 Hours.**

Students will have an opportunity to find grant funding sources, write a grant, and submit an actual grant proposal to an agency for consideration. Will survey research in instructional media over the past 60 years and learn specific criteria for reading and evaluating research reports and articles. Will investigate current issues and topics related to research and grant writing in instructional media.

**ETEC 5273. Advanced Design of Educational Media (Sp). 3 Hours.**

Instruction in the planning and local production of instructional materials. Prerequisite: ETEC 5213.

**ETEC 5283. Field Experiences in Educational Technology (Sp, Su, Fa). 3 Hours.**

Field experience in educational technology settings. Prerequisite: Graduate standing and 6 hours of graduate work in educational technology.

**ETEC 5303. Learning with Computers in K-12 Classrooms (Sp). 3 Hours.**

Students learn how technology can be used to support K-12 classroom environments. Various learning theories and technologies will be explored and projects will be developed that utilize technologies and current learning theories in K-12 settings. Emphasis is on identification, evaluation, and the effective use of technologies to support classroom environments. Prerequisite: Graduate standing.

**ETEC 5313. Principles in Visual Literacy (Sp, Su). 3 Hours.**

Students gain understanding of visual literacy research and learn to create graphics that support learning. Literature in the area of visual literacy and learning theories as well as tools that facilitate effective visual literacy will be used to create visuals that are clear, communicate well, and help enhance learner performance.

**ETEC 5373. Web Design (Sp). 3 Hours.**

Students design, create, and analyze Web sites by applying processes, standards and techniques used to identify target audience; ensure compliance with copyright and disability laws, measure effectiveness, and coordinate Web design. Topics include copyright and fair use, user and task analysis, usability, accessibility, testing, search engine optimization, and web analytics. Prerequisite: ETEC 5213 or equivalent experience. May be repeated for up to 3 hours of degree credit.

**ETEC 5743. Internship (Sp, Su, Fa). 3 Hours.**

A supervised field placement in educational technology that provides experience consistent with the student's professional goals and training emphasis. Internship experiences are planning and directed under the guidance of a faculty member. On-campus and on-site supervision is required. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

**ETEC 5981. Eportfolio Production (Sp, Fa). 1 Hour.**

This is a capstone course that is typically taken in the last semester of coursework and designed to: 1) review key constructs presented within the Educational Technology curriculum; 2) provide ETEC students the opportunity for reflection relative to his/her learning of the key concepts; and 3) utilize technology to assemble student-created artifacts that demonstrate mastery of the key concepts.

**ETEC 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Master's Thesis. May be repeated for degree credit.

**ETEC 6053. Special Problems in Educational Technology (Sp, Su, Fa). 3 Hours.**

Individually designed and conducted studies of educational technology under the guidance of a faculty member. Negotiated learning contract with supervising faculty required before enrollment. On-campus supervision required. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

**ETEC 6223. Strategic Planning and IDT Programs (Fa). 3 Hours.**

The course offers readings and experiences intended to develop strategic planning knowledge, values, attitudes, and skills in future instructional design and technology leaders. Topics covered include strategic planning and leadership.

**ETEC 6243. Advanced Instructional Design (Sp). 3 Hours.**

This course explores advanced topics in instructional design to facilitate understanding of grounded models, advanced theories, and research. This course focuses on: 1) design and development of contextualized technology-supported learning environments; 2) analysis and application of advanced theoretical foundations of design; and 3) examination and critique of instructional design research. Prerequisite: ETEC 5243 or equivalent.

**ETEC 6253. Distance Learning (Sp, Su). 3 Hours.**

An intensive examination of the role of telecommunications and distance education technologies and their implications for educational practices. Emphasis is on techniques of development, utilization and evaluation of telecommunication and distance education technologies in classroom environments.

**ELEC 6393. Issues and Trends in Instructional Design and Technology (Fa). 3 Hours.**

Critical challenges posed as a result of the increasing infusion of technology into the school and training environments are explored. The course prepares students to make and defend policy decisions and become conversant with current trends and issues in the field.

## Electrical Engineering (ELEG) Courses

**ELEG 2104. Electric Circuits I (Fa). 4 Hours.**

Introduction to circuit variables, elements, and simple resistive circuits. Analysis techniques applied to resistive circuits. The concept of inductance, capacitance and mutual inductance. The natural and step responses of RL, RC, and RLC circuits. Corequisite: Lab component. Pre- or Corequisite: MATH 2564 or MATH 2564C.

**ELEG 2114. Electric Circuits II (Sp). 4 Hours.**

Introduction to complex numbers. Sinusoidal steady-state analysis of electric circuits, active, reactive, apparent and complex power; balanced and unbalanced three-phase circuits; mutual inductance; the use of the Laplace transform for electric circuit analysis and two-port networks. Corequisite: Lab component. Pre- or Corequisite: MATH 2584. Prerequisite: ELEG 2104.

**ELEG 287V. Special Topics in Electrical Engineering (Irregular). 1-4 Hour.**

Consideration of current electrical engineering topics not covered in other courses. May be repeated for up to 4 hours of degree credit.

**ELEG 2904. Digital Design (Fa). 4 Hours.**

To introduce students to modern logic concepts, problem solving and design principles, and vocabulary and philosophy of the digital world. Corequisite: Lab component. Prerequisite: Engineering major. This course is cross-listed with CSCE 2114.

**ELEG 3124. System & Signal Analysis (Fa). 4 Hours.**

Definition and description of signals and systems; analog, digital, continuous- and discrete-time and frequency analysis of systems, Z- and Fourier Transforms, sampling and signal reconstruction, filter design and engineering applications. Pre- or Corequisite: MATH 2584. Corequisite: Lab component. Prerequisite: ELEG 2104 or ELEG 3903 or BMEG 2904.

**ELEG 3124H. Honors System & Signal Analysis (Fa). 4 Hours.**

Definition and description of signals and systems; analog, digital, continuous- and discrete-time and frequency analysis of systems, Z- and Fourier Transforms, sampling and signal reconstruction, filter design and engineering applications. Pre- or Corequisite: MATH 2584. Corequisite: Lab component. Prerequisite: ELEG 2104 or ELEG 3903 or BMEG 2904.

This course is equivalent to ELEG 3124.

**ELEG 3143. Probability & Stochastic Processes (Sp). 3 Hours.**

Review of system analysis, probability, random variables, stochastic processes, auto correlation, power spectral density, systems with random inputs in the time and frequency domain, and applications. Pre- or Corequisite: ELEG 3124.

**ELEG 3143H. Honors Probability & Stochastic Processes (Sp). 3 Hours.**

Review of system analysis, probability, random variables, stochastic processes, auto correlation, power spectral density, systems with random inputs in the time and frequency domain, and applications. Pre- or Corequisite: ELEG 3124.

This course is equivalent to ELEG 3143.

**ELEG 3214. Electronics I (Fa). 4 Hours.**

Introduction to electronic systems and signal processing, operational amplifiers, diodes, non-linear circuit applications, MOSFETS, and BJTs. Course has a lab component. Pre- or Corequisite: MATH 2574. Corequisite: Lab component. Prerequisite: ELEG 2114 and PHYS 2074.

**ELEG 3214H. Honors Electronics I (Fa). 4 Hours.**

Introduction to electronic systems and signal processing, operational amplifiers, diodes, non-linear circuit applications, MOSFETS, and BJTs. Pre- or Corequisite: MATH 2574. Corequisite: Lab component. Prerequisite: ELEG 2114 and PHYS 2074 and MATH 2574.

This course is equivalent to ELEG 3214.

**ELEG 3224. Electronics II (Sp). 4 Hours.**

Differential pair amplifier, current mirrors, active loads, multistage amplifiers, amplifier frequency response, bode plots, Millers theorem, short circuit and open circuit time constant methods, feedback amplifiers, and stability of feedback amplifiers. Corequisite: Lab component. Prerequisite: ELEG 3214 and MATH 2584.

**ELEG 3224H. Honors Electronics II (Sp). 4 Hours.**

Differential pair amplifier, current mirrors, active loads, multistage amplifiers, amplifier frequency response, bode plots, Millers theorem, short circuit and open circuit time constant methods, feedback amplifiers, and stability of feedback amplifiers. Corequisite: Lab component. Prerequisite: ELEG 3214 and MATH 2584. This course is equivalent to ELEG 3224.

**ELEG 3304. Energy Systems (Sp). 4 Hours.**

Steady state analysis of DC machines, transformers, induction machines and synchronous machines. Introduction to speed control of electric machines using power electronics. Corequisite: Lab component. Prerequisite: ELEG 2114.

**ELEG 3304H. Honors Energy Systems (Sp). 4 Hours.**

Steady state analysis of DC machines, transformers, induction machines and synchronous machines. Introduction to speed control of electric machines using power electronics. Corequisite: Lab component. Prerequisite: ELEG 2114. This course is equivalent to ELEG 3304.

**ELEG 3704. Applied Electromagnetics (Fa). 4 Hours.**

Analysis of transmission lines with sinusoidal and transient excitation. Development and use of the Smith Chart and methods of impedance matching. Vector analysis, static form of Maxwell's equations, electrostatics, and magnetostatics. Corequisite: Lab component. Pre- or Corequisite: PHYS 2074 and MATH 2574. Prerequisite: ELEG 2114.

**ELEG 3704H. Honors Applied Electromagnetics (Fa). 4 Hours.**

Analysis of transmission lines with sinusoidal and transient excitation. Development and use of the Smith Chart and methods of impedance matching. Vector analysis, static form of Maxwell's equations, electrostatics, and magnetostatics. Corequisite: Lab component. Pre- or Corequisite: PHYS 2074 and MATH 2574. Prerequisite: ELEG 2114.

This course is equivalent to ELEG 3704.

**ELEG 387V. Special Topics in Electrical Engineering (Irregular). 1-4 Hour.**

Consideration of current electrical engineering topics not covered in other courses.

**ELEG 3903. Electric Circuits and Machines (Sp, Fa). 3 Hours.**

Basic electrical principles and circuits; Introduction to sinusoidal steady-state analysis of electric circuits, active, reactive, and complex power; balanced three-phase circuits; Steady-state analysis of electric machines and transformers. Introduction to power electronics for machine speed control and alternative energy sources. For engineering students other than those in electrical engineering. Prerequisite: MATH 2564 and PHYS 2074.

**ELEG 3924. Microprocessor Systems Design (Fa). 4 Hours.**

Introduction to 8-bit microprocessors and their application. Microprocessor architecture and assembly language; interface devices; system design using microprocessors. Corequisite: Lab component. Pre- or Corequisite: ELEG 2904.



**ELEG 3924H. Honors Microprocessor Systems Design (Fa). 4 Hours.**

Introduction to 8-bit microprocessors and their application. Microprocessor architecture and assembly language; interface devices; system design using microprocessors. Corequisite: Lab component. Prerequisite: ELEG 2904. This course is equivalent to ELEG 3924.

**ELEG 3933. Circuits & Electronics (Sp). 3 Hours.**

Basic principles of electric and electronic circuits and devices. For engineering students other than those in electrical engineering. Prerequisite: MATH 2584 and PHYS 2074.

**ELEG 400VH. Honors Senior Thesis (Sp, Su, Fa). 1-3 Hour.**

Prerequisite: senior standing.  
This course is equivalent to ELEG 400V.

**ELEG 4063. Electrical Engineering Design I (Sp, Fa). 3 Hours.**

Capstone design and application in electrical engineering. Prerequisite: ELEG 3224 and ELEG 3924.

**ELEG 4063H. Honors Electrical Engineering Design I (Sp, Fa). 3 Hours.**

Design and application in electrical engineering. Prerequisite: ELEG 3224 and ELEG 3924.  
This course is equivalent to ELEG 4063.

**ELEG 4071. Electrical Engineering Design II (Sp, Fa). 1 Hour.**

Design and application in electrical engineering. Prerequisite: ELEG 4063.

**ELEG 4071H. Honors Electrical Engineering Design II (Sp, Fa). 1 Hour.**

Design and application in electrical engineering. Prerequisite: ELEG 4063.  
This course is equivalent to ELEG 4071.

**ELEG 4203. Semiconductor Devices (Irregular). 3 Hours.**

Crystal properties and growth of semiconductors, energy bands and charge carriers in semiconductors, excess carriers in semiconductors, analysis and design of p/n junctions, analysis and design of bipolar junction transistors, and analysis and design of field-effect transistors. Students may not receive credit for both ELEG 4203 and ELEG 5203. Prerequisite: MATH 2584 and ELEG 3214, or graduate standing.

**ELEG 4203H. Honors Semiconductor Devices (Irregular). 3 Hours.**

Crystal properties and growth of semiconductors, energy bands and charge carriers in semiconductors, excess carriers in semiconductors, analysis and design of p/n junctions, analysis and design of bipolar junction transistors, and analysis and design of field-effect transistors. Students may not receive credit for both ELEG 4203 and ELEG 5203. Prerequisite: MATH 2584 and ELEG 3214, or graduate standing.  
This course is equivalent to ELEG 4203.

**ELEG 4213. MEMS and Microsensors (Fa). 3 Hours.**

The aim of this course is to teach the theory and developments in MEMS, microsensors, NEMS and smart devices and to train the students for the fabrication using microfabrication tools in the clean room. The students will design, fabricate and characterize a MEMS/Microsensor device during the lab hours at the HiDEC clean room.

**ELEG 4223. Design and Fabrication of Solar Cells (Irregular). 3 Hours.**

Solar insolation and its spectral distribution; p-n junction solar cells in dark and under illumination; solar cell parameters efficiency limits and losses; standard cell technology; energy accounting; design of silicon solar cells using simulation; fabrication of designed devices in the lab and their measurements. Students may not receive credit for both ELEG 4223 and ELEG 5223. Prerequisite: ELEG 4203.

**ELEG 4233. Introduction to Integrated Circuit Design (Fa). 3 Hours.**

Design and layout of large scale digital integrated circuits using CMOS technology. Topics include MOS devices and basic circuits, integrated circuit layout and fabrication, dynamic logic, circuit design, and layout strategies for large scale CMOS circuits. Students may not receive credit for both ELEG 4233 and ELEG 5923. Prerequisite: ELEG 3214 or ELEG 3933 and ELEG 2904 or equivalent.  
This course is cross-listed with ELEG 5923.

**ELEG 4233H. Honors Introduction to Integrated Circuit Design (Irregular). 3 Hours.**

Design and layout of large scale digital integrated circuits using NMOS and CMOS technology. Topics include MOS devices and basic circuits, integrated circuit layout and fabrication, dynamic logic, circuit design, and layout strategies for large scale NMOS and CMOS circuits. Prerequisite: ELEG 3214 or ELEG 3933 and ELEG 2904 or equivalent.  
This course is cross-listed with ELEG 4233, ELEG 5923.

**ELEG 4243. Analog Integrated Circuits (Irregular). 3 Hours.**

Theory and design techniques for linear and analog integrated circuits. Current mirrors, voltage to base emitter matching, active loads, compensation, level shifting, amplifier design techniques, circuit simulation using computer-assisted design programs. Prerequisite: ELEG 3224.

**ELEG 4253. Nanotechnology in Engineering & Medicine (Irregular). 3 Hours.**

The objective of this course is to present a concise and concurrent introduction to Nanotechnology and its applications in engineering and medicine, particularly for nanoelectronics, nanosensors and nanocomputing. This course presents basic aspects of the nanotechnology, its fabrication and imaging technologies and integration of biomolecules with electronic systems for the design of devices in nanoelectronics, nanobioelectronics and Nanomedicine. Prerequisite: Senior standing or instructor consent. May be repeated for up to 6 hours of degree credit.

**ELEG 4283. Mixed Signal Test Engineering I (Irregular). 3 Hours.**

Overview of mixed signal testing, the test specification process, DC and parametric measurements, measurement accuracy, tester hardware, sampling theory, DSP-based testing, analog channel testing, digital channel testing. Prerequisite: Senior or graduate standing.

**ELEG 4293. Mixed-Signal Modeling & Simulation (Irregular). 3 Hours.**

Study of basic analog, digital & mixed signal simulation solution methods. Modeling with hardware description languages. Use of state-of-the-art simulators and HDLs. Students may not receive credit for both ELEG 4293 and ELEG 5993. Prerequisite: ELEG 3224.

**ELEG 4303. Introduction to Nanomaterials and Devices (Irregular). 3 Hours.**

This course provides the students with an introduction to nanomaterials and devices. The students will be introduced to the quantization of energy levels in nanomaterials, growth of nanomaterials, electrical and optical properties, and devices based on these nanomaterials, such as tunneling resonant diodes, transistors, detector, and emitters. Graduate students will be given additional or different assignments. Graduate students will be expected to explore and demonstrate an understanding of the material with a greater level of depth and breadth than the undergraduates. Each group of students will have different expectations and grading systems. The instructor will prepare and distribute two distinct syllabi. Corequisite: ELEG 4203. Prerequisite: ELEG 3214 and PHYS 2074. May be repeated for up to 6 hours of degree credit.

**ELEG 4323. Switch Mode Power Conversion (Irregular). 3 Hours.**

Basic switching converter topologies: buck, boost, buck-boost, Cuk, flyback, resonant; pulse-width modulation; integrated circuit controllers; switching converter design case studies; SPICE analyses of switching converters; state-space averaging and linearization; and switching converter transfer functions. Prerequisite: ELEG 3224 and ELEG 3124.

**ELEG 4343. Organic Electronics Technology (Irregular). 3 Hours.**

Students become familiar with recent developments in and process technology for organic material based devices and sensors in the classroom, but also gain hands on experience with fabrication processes using micro-fabrication tools in the lab. Students may not receive credit for both ELEG 4343 and ELEG 5343.

**ELEG 4403. Control Systems (Irregular). 3 Hours.**

Mathematical modeling of dynamic systems, stability analysis, control system architectures and sensor technologies. Time-domain and frequency-domain design of feedback control systems: lead, lag, PID compensators. Special topics in microprocessor implementation. Students may not receive credit for both ELEG 4403 and ELEG 5403. Prerequisite: ELEG 3124.

**ELEG 4403H. Honors Control Systems (Irregular). 3 Hours.**

Mathematical modeling of dynamic systems, stability analysis, control system architectures and sensor technologies. Time-domain and frequency-domain design of feedback control systems: lead, lag, PID compensators. Special topics in microprocessor implementation. Students may not receive credit for both ELEG 4403 and ELEG 5403. Prerequisite: ELEG 3124.

**ELEG 4413. Advanced Control Systems (Irregular). 3 Hours.**

A second course in linear control systems. Emphasis on multiple-input and multiple-output systems: State-space analysis, similarity transformations, eigenvalue and eigenvector decomposition, stability in the sense of Lyapunov, controllability and observability, pole placement, quadratic optimization. Students may not receive credit for both ELEG 4413 and ELEG 5413. Prerequisite: ELEG 4403 or equivalent course.

**ELEG 4423. Optimal Control (Irregular). 3 Hours.**

Introductory theory of optimizing dynamic systems: Formulation of performance objectives; calculus of variations; linear quadratic optimal control; discrete-time optimization; robustness and frequency domain techniques; reinforcement learning and optimal adaptive control. Prerequisite: ELEG 4403.

**ELEG 4463L. Control Systems Laboratory (Irregular). 3 Hours.**

Experimental study of various control systems and components. The use of programmable logic controllers in the measurement of systems parameters, ladder-logic applications, process-control applications, and electromechanical systems. Prerequisite: ELEG 3924 and ELEG 3124.

**ELEG 4473. Power System Operation and Control (Irregular). 3 Hours.**

Study of the control and operation of electric power systems: Modeling, dynamics, and stability of three-phase power systems. Design and implementation of control systems related to generation and transmission. Overview of the related industry and government regulations for power system protection and reliability. Students may not receive credit for both ELEG 4473 and ELEG 5473. Prerequisite: ELEG 3124 and ELEG 3304.

**ELEG 4503. Design of Advanced Electric Power Distribution Systems (Irregular). 3 Hours.**

Design considerations of electric power distribution systems, including distribution transformer usage, distribution system protection implementation, primary and secondary networks design, applications of advanced equipment based on power electronics, and use of capacitors and voltage regulation. Students may not receive credit for both ELEG 4503 and ELEG 5503. Prerequisite: ELEG 3304.

**ELEG 4503H. Honors Design of Advanced Electric Power Distribution Systems (Irregular). 3 Hours.**

Design considerations of electric power distribution systems, including distribution transformer usage, distribution system protection implementation, primary and secondary networks design, applications of advanced equipment based on power electronics, and use of capacitors and voltage regulation. Students may not receive credit for both ELEG 4503H and ELEG 5503. Prerequisite: ELEG 3304.

This course is equivalent to ELEG 4503.

**ELEG 4513. Power and Energy Systems Analysis (Irregular). 3 Hours.**

Modeling and analysis of electric power systems: Energy sources and conversion; load flow analysis; reference frame transformations; symmetrical and unsymmetrical fault conditions; load forecasting and economic dispatch. Students may not receive credit for both ELEG 4513 and ELEG 5513. Prerequisite: ELEG 2114.

**ELEG 4523. Quality of Electric Power (Irregular). 3 Hours.**

This course addresses concepts related to the quality of electric power (in particular wiring and grounding, voltage sags and interruptions, harmonics, and transients), distributed generation and power electronic systems, power quality benchmarking, as well as instrumentation and PQ analyzers. Students may not receive credit for both ELEG 4523 and ELEG 5523. Prerequisite: ELEG 3304.

**ELEG 4533. Power Electronics and Motor Drives (Irregular). 3 Hours.**

Characteristics of Insulated Gate Bipolar Transistors (IGBTs), Silicon Carbide (SiC) MOSFETs, Gallium Nitride (GaN) devices, Design of driver and snubber circuits for IGBTs and SiC MOSFETs, and an introduction to electric motor drives. Students may not receive credit for both ELEG 4533 and 5533. Prerequisite: ELEG 3304 and ELEG 3224.

**ELEG 4543. Introduction to Power Electronics (Irregular). 3 Hours.**

Presents basics of emerging areas in power electronics and a broad range of topics such as power switching devices, electric power conversion techniques and analysis, as well as their applications. Students may not receive credit for both ELEG 5543 and 4543. Prerequisite: ELEG 2114 and ELEG 3214.

**ELEG 4603. Deterministic Digital Signal Processing System Design (Irregular). 3 Hours.**

Design of Digital Signal Processing systems with deterministic inputs. Sampling, quantizing, oversampling, ADC trade-offs, distortion, equalizers, anti-aliasing, coherency, frequency domain design, audio and video compression. Prerequisite: ELEG 3124.

**ELEG 4623. Communication Systems (Irregular). 3 Hours.**

Various modulation systems used in communications. AM and FM fundamentals, pulse modulation, signal to noise ratio, threshold in FM, the phase locked loop, matched filter detection, probability of error in PSK, FKS, and DPSK. The effects of quantization and thermal noise in digital systems. Information theory and coding. Pre- or Corequisite: ELEG 3143.

**ELEG 4703. Introduction to RF and Microwave Design (Irregular). 3 Hours.**

An introduction to microwave design principles. Transmission lines, passive devices, networks, impedance matching, filters, dividers, and hybrids will be discussed in detail. Active microwave devices will also be introduced. In addition, the applications of this technology as it relates to radar and communications systems will be reviewed. Prerequisite: ELEG 3704.

**ELEG 4703H. Honors Introduction to RF and Microwave Design (Irregular). 3 Hours.**

An introduction to microwave design principles. Transmission lines, passive devices, networks, impedance matching, filters, dividers, and hybrids will be discussed in detail. Active microwave devices will also be introduced. In addition, the applications of this technology as it relates to radar and communications systems will be reviewed. Prerequisite: ELEG 3704.

This course is equivalent to ELEG 4703.

**ELEG 4773. Electronic Response of Biological Tissues (Irregular). 3 Hours.**

Understand the electric and magnetic response of biological tissues with particular reference to neural and cardiovascular systems. Passive and active forms of electric signals in cell communication. We will develop the central electrical mechanisms from the membrane channel to the organ, building on those excitation, dielectric models for tissue behavior, Debye, Cole-Cole models. Role of bound and free water on tissue properties. Magnetic response of tissues. Experimental methods to measure tissue response. Applications to Electrocardiography & Electroencephalography, Microwave Medical Imaging, RF Ablation will be discussed that are common to many electrically active cells in the body. Analysis of Nernst equation, Goldman equation, linear cable theory, and Hodgkin-Huxley Model of action potential generation and propagation. High frequency response of tissues to microwave. Prerequisite: ELEG 3704 or equivalent; MATH 2584 or equivalent; basic Biology.

This course is cross-listed with BENG 4283.

**ELEG 4783. Introduction to Antennas (Irregular). 3 Hours.**

Basic antenna types: small dipoles, half wave dipoles, image theory, monopoles, small loop antennas. Antenna arrays: array factor, uniformly excited equally spaced arrays, pattern multiplication principles, nonuniformly excited arrays, phased arrays. Use of MATLAB programming and mathematical techniques for antenna analysis and design. Emphasis will be on using simulation to visualize variety of antenna radiation patterns. Prerequisite: ELEG 3704.

**ELEG 4783H. Honors Introduction to Antennas (Irregular). 3 Hours.**

Basic antenna types: small dipoles, half wave dipoles, image theory, monopoles, small loop antennas. Antenna arrays: array factor, uniformly excited equally spaced arrays, pattern multiplication principles, nonuniformly excited arrays, phased arrays. Use of MATLAB programming and mathematical techniques for antenna analysis and design. Emphasis will be on using simulation to visualize variety of antenna radiation patterns. Prerequisite: ELEG 3704.

This course is equivalent to ELEG 4783.

**ELEG 487V. Special Topics in Electrical Engineering (Irregular). 1-3 Hour.**

Consideration of current electrical engineering topics not covered in other courses. Prerequisite: Senior standing. May be repeated for up to 6 hours of degree credit.

**ELEG 487VH. Honors Special Topics in Electrical Engineering (Irregular). 1-3 Hour.**

Consideration of current electrical engineering topics not covered in other courses. Prerequisite: Senior standing. May be repeated for up to 6 hours of degree credit. This course is equivalent to ELEG 487V.

**ELEG 488V. Special Problems (Sp, Su, Fa). 1-3 Hour.**

Individual study and research on a topic mutually agreeable to the student and a faculty member. Prerequisite: Senior standing. May be repeated for up to 3 hours of degree credit.

**ELEG 488VH. Honors Special Problems (Irregular). 1-3 Hour.**

Individual study and research on a topic mutually agreeable to the student and a faculty member. Prerequisite: Senior standing. This course is equivalent to ELEG 488V.

**ELEG 4914. Advanced Digital Design (Irregular). 4 Hours.**

To master advanced logic design concepts, including the design and testing of synchronous and asynchronous combinational and sequential circuits using state of the art CAD tools. Students may not receive credit for both ELEG 4914 and CSCE 4914 or ELEG 5914. Corequisite: Lab component. Prerequisite: ELEG 2904 or CSCE 2114.

This course is cross-listed with CSCE 4914.

**ELEG 4914H. Honors Advanced Digital Design (Irregular). 4 Hours.**

To master advanced logic design concepts, including the design and testing of synchronous and asynchronous combinational and sequential circuits using state of the art CAD tools. Students may not receive credit for both ELEG 4914H and ELEG 5914. Corequisite: Lab component. Prerequisite: ELEG 2904 or CSCE 2114. This course is cross-listed with ELEG 4914, CSCE 4914.

**ELEG 4963. CPLD/FPGA Based System Design (Irregular). 3 Hours.**

Field Programmable logic devices (FPGAs/CPLDs) have become extremely popular as basic building blocks for digital systems. They offer a general architecture that users can customize by inducing permanent or reversible physical changes. This course will deal with the implementation of logic options using these devices.

Corequisite: Lab component. Prerequisite: ELEG 4914.

This course is cross-listed with CSCE 4353.

**ELEG 4963H. Honors CPLD/FPGA Based System Design (Irregular). 3 Hours.**

Field Programmable logic devices (FPGAs/CPLDs) have become extremely popular as basic building blocks for digital systems. They offer a general architecture that users can customize by inducing permanent or reversible physical changes. This course will deal with the implementation of logic options using these devices.

Corequisite: Lab component. Prerequisite: ELEG 4914.

This course is cross-listed with ELEG 4963, CSCE 4353.

**ELEG 4983. Computer Architecture (Irregular). 3 Hours.**

Design of a single board computer including basic computer organization, memory subsystem design, peripheral interfacing, DMA control, interrupt control, and bus organization. Prerequisite: ELEG 3924.

This course is cross-listed with CSCE 4213.

**ELEG 5173L. Digital Signal Processing Laboratory (Irregular). 3 Hours.**

Use of DSP integrated circuits. Lectures, demonstrations, and projects. DSP IC architectures and instruction sets. Assembly language programming. Development tools. Implementation of elementary DSP operations, difference equations, transforms and filters. Prerequisite: ELEG 3124.

**ELEG 5193L. Advanced DSP Processors Laboratory (Irregular). 3 Hours.**

Familiarization with, and use of, advanced DSP processors. Parallel processor configurations, timing consideration, specialized programming techniques, and complex pipelines. Prerequisite: ELEG 5173L.

**ELEG 5203. Semiconductor Devices (Irregular). 3 Hours.**

Crystal properties and growth of semiconductors, energy bands and charge carriers in semiconductors, excess carriers in semiconductors, analysis and design of p/n junctions, analysis and design of bipolar junction transistors, and analysis and design of field-effect transistors. Students may not receive credit for both ELEG 4203 and ELEG 5203. Prerequisite: Graduate standing.

**ELEG 5213. Integrated Circuit Fabrication Technology (Irregular). 3 Hours.**

Theory and techniques of integrated circuit fabrication technology; crystal growth, chemical vapor deposition, impurity diffusion, oxidation, ion implantation, photolithography and metallization. Design and analysis of device fabrication using SUPREM and SEDAN. In-process analysis techniques. Student review papers and presentations on state of the art fabrication and device technology. Prerequisite: ELEG 4203.

**ELEG 5223. Design and Fabrication of Solar Cells (Irregular). 3 Hours.**

Solar insolation and its spectral distribution/ p-n junction solar cells in dark and under illumination; solar cell parameters efficiency limits and losses; standard cell technology; energy accounting; design of silicon solar cells using simulation; fabrication of designed devices in the lab and their measurements. Students cannot receive credit for both ELEG 4223 and ELEG 5223. Prerequisite: ELEG 4203 or ELEG 5203.

**ELEG 5243L. Microelectronic Fabrication Techniques and Procedures (Irregular). 3 Hours.**

The Thin-Film Fabrication course is designed to prepare students to use the thin-film equipment and processes available at the Engineering Research Center's thin-film cleanroom. The process modules to be trained on include lithography, metal deposition and etching, oxide deposition, growth and etching, reactive dry etching, tantalum anodization, photodefinable spin-on dielectric and electroplating. The related metrology modules include microscope inspection, spectrophotometric measurement of oxide, profilometry and four-point probe measurements. Prerequisite: ELEG 5273.

**ELEG 5253L. Integrated Circuit Design Laboratory I (Irregular). 3 Hours.**

Design and layout of large scale digital integrated circuits. Students design, check, and simulate digital integrated circuits which will be fabricated and tested in I.C. Design Laboratory II. Topics include computer-aided design, more in-depth coverage of topics from ELEG 4233, and design of very large scale chips. Prerequisite: ELEG 4233.

This course is cross-listed with CSCE 5253L.

**ELEG 5263L. Integrated Circuit Design Laboratory II (Irregular). 3 Hours.**

Students test the I.C. chips they designed in I.C. Design Laboratory I and propose design corrections where needed. Topics include gate arrays, bipolar design, I<sup>2</sup>L, memory design, and microprocessor design. Prerequisite: ELEG 5253L.

This course is cross-listed with CSCE 5363L.

**ELEG 5273. Electronic Packaging (Irregular). 3 Hours.**

An introductory treatment of electronic packaging, from single chip to multichip, including materials, substrates, electrical design, thermal design, mechanical design, package modeling and simulation, and processing considerations. Credit cannot be earned for both MEEG 5273 and ELEG 5273. Prerequisite: Graduate standing. This course is cross-listed with MEEG 5273.

**ELEG 5283. Mixed Signal Test Engineering II (Irregular). 3 Hours.**

Focus calibrations, DAC testing, ADC testing, DIB design, Design for Test, Data Analysis, and Test Economics. Prerequisite: ELEG 4283.

**ELEG 5293L. Integrated Circuits Fabrication Laboratory (Irregular). 3 Hours.**

Experimental studies of silicon oxidation, solid-state diffusion, photolithographical materials and techniques, bonding and encapsulation. Fabrication and testing of PN diodes, NPN transistors and MOS transistors. Prerequisite: ELEG 5213.

**ELEG 5313. Power Semiconductor Devices (Irregular). 3 Hours.**

Carrier transport physics; breakdown phenomenon in semiconductor devices; power bipolar transistors, thyristors, power junction field-effect transistors, power field-controlled diodes, power metal-oxide-semiconductor field-effect transistors, and power MOS-bipolar devices. Prerequisite: ELEG 4203 or graduate standing.

**ELEG 5323. Semiconductor Nanostructures I (Irregular). 3 Hours.**

This course is focused on the basic theoretical and experimental analyses of low dimensional systems encountered in semiconductor heterojunctions and nanostructures with the emphasis on device applications and innovations. Prerequisite: ELEG 4203 or instructor permission.

**ELEG 5333. Semiconductor Nanostructures II (Irregular). 3 Hours.**

This course is a continuation of ELEG 5323 Semiconductor Nanostructures I. It is focused on the transport properties, growth, electrical and optical properties of semiconductor nanostructures, and optoelectronic devices. Prerequisite: ELEG 5323 or instructor permission.

**ELEG 5343. Organic Electronics Technology (Irregular). 3 Hours.**

Students become familiar with recent developments in and process technology for organic material based devices and sensors in the classroom, but also gain hands on experience with fabrication processes using micro-fabrication tools in the lab.

**ELEG 5353. Semiconductor Optoelectronic Devices (Odd years, Sp). 3 Hours.**

This course will provide graduate students a detailed background in semiconductor optoelectronic devices such as light emitting diodes and lasers, photodetectors, solar cells, modulators. The applications of these devices will also be discussed. Prerequisite: ELEG 4203 or ELEG 5203.

**ELEG 5363. Semiconductor Material and Device Characterization (Even years, Sp). 3 Hours.**

This course provides an overview of semiconductor characterization techniques in industry: Electrical measurements, Optical measurements, Electron and ion beam measurements, X-ray and probe measurements. Prerequisite: ELEG 4203 and instructor consent.

**ELEG 5403. Control Systems (Irregular). 3 Hours.**

Mathematical modeling of dynamic systems, stability analysis, control systems architectures and sensor technologies. Time-domain and frequency-domain design of feedback control systems: lead, lag, PID compensators. Special topics on microprocessor implementation. Credit not given for both ELEG 4403 and ELEG 5403. Prerequisite: Graduate standing or ELEG 3124.

**ELEG 5413. Modern Control Systems (Irregular). 3 Hours.**

A second course in linear control systems. Emphasis on multiple-input and multiple-output systems: State-space analysis, similarity transformations, eigenvalue and eigenvector decomposition, stability in the sense of Lyapunov, controllability and observability, pole placement, quadratic optimization. Credit not given for both ELEG 4413 and ELEG 5413. Prerequisite: ELEG 5403 or equivalent.

**ELEG 5423. Optimal Control Systems (Irregular). 3 Hours.**

Basic concepts, conditions for optimality, the minimum principle, the Hamilton Jacobi equation, structure and properties of optimal systems. Prerequisite: ELEG 4403 or graduate standing.

**ELEG 5433. Digital Control Systems (Irregular). 3 Hours.**

Signal processing in continuous-discrete systems. System modeling using the z-transform and state-variable techniques. Analysis and design of digital control systems. Digital redesign for continuous control. Prerequisite: ELEG 4403 or graduate standing.

**ELEG 5443. Nonlinear Systems Analysis and Control (Irregular). 3 Hours.**

Second-order nonlinear systems. Nonlinear differential equations. Approximate analysis methods. Lyapunov and input-output stability. Design of controllers, observers, and estimators for nonlinear systems. Prerequisite: ELEG 4403 or graduate standing.

**ELEG 5453. Adaptive Filtering and Control (Irregular). 3 Hours.**

Models for deterministic systems. Parameter estimation. Adaptive control. Stochastic models. Stochastic state and parameter estimation. Adaptive control of stochastic systems. Prerequisite: ELEG 4403 or graduate standing.

**ELEG 5463. Biomedical Control Systems (Irregular). 3 Hours.**

Study of control systems analysis and design as applied to human physiological systems: Modeling and dynamics of biological processes, biomedical sensors, time and frequency domain analysis, identification of physiological systems. Overview of medical device regulations. Prerequisite: ELEG 4403 or graduate standing.

**ELEG 5473. Power System Operation and Control (Irregular). 3 Hours.**

Study of the control and operation of electric power systems: Modeling, dynamics, and stability of three-phase power systems. Design and implementation of control systems related to generation and transmission. Overview of the related industry and government regulations for power system protection and reliability. Prerequisite: ELEG 4403 or graduate standing.

**ELEG 5503. Design of Advanced Power Distribution Systems (Irregular). 3 Hours.**

ELEG 5503 Design of Advanced Power Distribution Systems. 3 credit hours. Design considerations of electric power distribution systems, including distribution transformer usage, distribution system protection implementation, primary and secondary networks design, applications of advanced equipment based on power electronics, and use of capacitors and voltage regulation. Students cannot receive credit for both ELEG 4503 and ELEG 5503. Prerequisite: ELEG 3304 or graduate standing.

**ELEG 5513. Power Systems Analysis (Irregular). 3 Hours.**

Modeling and analysis of electric power systems: Energy sources and conversion; load flow analysis; reference frame transformations; symmetrical and unsymmetrical fault conditions; load forecasting and economic dispatch. Credit not given for both ELEG 4513 and ELEG 5513. Prerequisite: Graduate standing.

**ELEG 5523. Electric Power Quality (Irregular). 3 Hours.**

The theory and analysis of electric power quality for commercial, industrial and residential power systems. Specific topics include harmonics, voltage sags, wiring and grounding, instrumentation, distributed generation and power electronic systems, and site surveys. Case studies complement the theoretical concepts. Prerequisite: ELEG 3304 or graduate standing.

**ELEG 5533. Power Electronics and Motor Drives (Irregular). 3 Hours.**

Fundamentals of power electronics, diode bridge rectifiers, inverters, general concepts on motor drives, induction motor drives, synchronous motor drives, and dc motor drives. Students may not receive credit for both ELEG 4533 and 5533. Prerequisite: Graduate standing or ELEG 3224 and ELEG 3304.

**ELEG 5543. Introduction to Power Electronics (Irregular). 3 Hours.**

Presents basics of emerging areas in power electronics and a broad range of topics such as power switching devices, electric power conversion techniques and analysis, as well as their applications. Students may not receive credit for both ELEG 5543 and 4543. Prerequisite: ELEG 2114 and ELEG 3214, or graduate standing.

**ELEG 5613. Introduction to Telecommunications (Irregular). 3 Hours.**

Overview of public and private telecommunication systems; traffic engineering; communications systems basics, information technology, electromagnetics, and data transmission. Prerequisite: ELEG Graduate Standing or ELEG 3124. This course is cross-listed with CSCE 5613.

**ELEG 5623. Information Theory (Irregular). 3 Hours.**

Continuous and discrete source and channel models, measure of information, channel capacity, noisy-channel coding theorem, coding and decoding techniques. Prerequisite: ELEG 3143 or ELEG 4623 or graduate standing.

**ELEG 5633. Detection and Estimation (Irregular). 3 Hours.**

Binary and multiple decisions for single and multiple observations; sequential, composite, and non-parametric decision theory; estimation theory; sequential, non-linear, and state estimation; optimum receiver principles. Prerequisite: Graduate standing.

**ELEG 5653. Artificial Neural Networks (Irregular). 3 Hours.**

Fundamentals of artificial neural networks, both theory and practice. Teaches basic concepts of both supervised and unsupervised learning, and how they are implemented using artificial neural networks. Topics include the perceptron, back propagation, the competitive Hamming net, self-organizing feature maps, topological considerations, requirements for effective generalization, subpattern analysis, etc. Prerequisite: MATH 2584.

**ELEG 5663. Communication Theory (Irregular). 3 Hours.**

Principles of communications. Channels and digital modulation. Optimum receivers and algorithms in the AWGN and fading channels. Coherent, non-coherent detectors and matched filters. Bounds on the performance of communications, and comparison of communications systems. Background in stochastic processes and probabilities, communication systems is desirable. Prerequisite: Graduate standing. May be repeated for degree credit.

**ELEG 5693. Wireless Communications (Irregular). 3 Hours.**

Comprehensive course in fast developing field of wireless mobile/cellular personal telecommunications. Topics include cellular system structures, mobile radio propagation channels, etc. Prerequisite: Graduate standing.

**ELEG 5703. RF & Microwave Design (Irregular). 3 Hours.**

An introduction to microwave design principles. Transmission lines, passive devices, networks, impedance matching, filters, dividers, and hybrids will be discussed in detail. Active microwave devices will also be introduced. In addition, the applications of this technology as it relates to radar and communications systems will be reviewed. Selected topics for device fabrication and measurements will be covered. Cannot get credit if student has taken ELEG 4703. Prerequisite: ELEG 3704.

**ELEG 5723. Advanced Microwave Design (Irregular). 3 Hours.**

This course is an advanced course in microwave design building on the introduction to microwave design course. A detailed discussion of active devices, biasing networks, mixers, detectors, Microwave Monolithic Integrated Circuits (MMIC), and wideband matching networks will be provided. In addition, a number of advanced circuits will be analyzed. Prerequisite: ELEG 3704 and ELEG 4703 or ELEG 5703.

**ELEG 5763. Advanced Electromagnetic Scattering & Transmission (Irregular). 3 Hours.**

Reflection and transmission of electromagnetic waves from a flat interface, the Poynting theorem, the complex and average power, the rectangular wave guides, TE and TM modes, radiation from antennas in free space and introduction to computational electromagnetics. Prerequisite: ELEG 3704.

**ELEG 5773. Electronic Response of Biological Tissues (Irregular). 3 Hours.**

Understand the electric and magnetic response of biological tissues with particular reference to neural and cardiovascular systems. Passive and active forms of electric signals in cell communication. We will develop the central electrical mechanisms from the membrane channel to the organ, building on those that are common to many electrically active cells in the body. Analysis of Nernst equation, Goldman equation, linear cable theory, and Hodgkin-Huxley Model of action potential generation and propagation. High frequency response of tissues to microwave excitation, dielectric models for tissue behavior, Debye, Cole-Cole models. Role of bound and free water on tissue properties. Magnetic response of tissues. Experimental methods to measure tissue response. Applications to Electrocardiography & Electroencephalography, Microwave Medical Imaging, RF Ablation will be discussed. Students may not receive credit for both ELEG 4773 and ELEG 5773. Prerequisite: MATH 2584, ELEG 3704 or PHYS 3414, BIOL 2533 or equivalent.

**ELEG 5783. Introduction to Antennas (Irregular). 3 Hours.**

Basic antenna types: small dipoles, half wave dipoles, image theory, monopoles, small loop antennas. Antenna arrays: array factor, uniformly excited equally spaced arrays, pattern multiplication principles, nonuniformly excited arrays, phased arrays. Use of MATLAB programming and mathematical techniques for antenna analysis and design. Emphasis will be on using simulation to visualize variety of antenna radiation patterns. Students cannot get credit for ELEG 5783 if they have taken ELEG 4783. Prerequisite: ELEG 3704.

**ELEG 5801. Written and Oral Communication (Sp, Su, Fa). 1 Hour.**

This course is designed to improve the oral presentations and technical writing of graduate students. Emphasis is placed on writing journal articles, theses and dissertations, and on giving oral presentations at conferences and job interviews. Each student delivers a 20 minute PowerPoint presentation to other students in the class. Prerequisite: Readiness to begin writing thesis.

**ELEG 587V. Special Topics in Electrical Engineering (Irregular). 1-3 Hour.**

Consideration of current electrical engineering topics not covered in other courses. Prerequisite: Graduate standing. May be repeated for up to 3 hours of degree credit.

**ELEG 588V. Special Problems (Sp, Su, Fa). 1-6 Hour.**

Opportunity for individual study of advanced subjects related to a graduate electrical engineering program to suit individual requirements. May be repeated for up to 6 hours of degree credit.

**ELEG 5914. Advanced Digital Design (Irregular). 4 Hours.**

To master advanced logic design concepts, including the design and testing of synchronous and asynchronous combinational and sequential circuits using state of the art CAD tools. Students may not receive credit for both ELEG 5914 and ELEG 4914 or CSCE 4914. Corequisite: Lab component. Prerequisite: ELEG 2904 or CSCE 2114.

**ELEG 5923. Introduction to Integrated Circuit Design (Fa). 3 Hours.**

Design and layout of large scale digital integrated circuits using CMOS technology. Topics include MOS devices and basic circuits, integrated circuit layout and fabrication, dynamic logic, circuit design, and layout strategies for large scale CMOS circuits. Students may not receive credit for both ELEG 4233 and ELEG 5923. Prerequisite: ELEG 3214 or ELEG 3933 and MATH 2584. This course is cross-listed with ELEG 4233.

**ELEG 5993. Mixed-signal Modeling and Simulation (Irregular). 3 Hours.**

Study of basic analog, digital & mixed signal simulation solution methods. Modeling with hardware description languages. Use of state-of-the-art simulators and HDLs. Students may not receive credit for both ELEG 4293 and ELEG 5993. Prerequisite: ELEG 3224 or graduate standing.

**ELEG 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Master's Thesis. Prerequisite: Graduate standing. May be repeated for degree credit.

**ELEG 6801. Graduate Seminar (Sp, Su, Fa). 1 Hour.**

Papers presented by candidates for the Doctor of Philosophy degree in electrical engineering on current research or design problems in the field of electrical engineering.

**ELEG 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Doctoral Dissertation. May be repeated for degree credit.

## Engineering (ENGR)

### Courses

**ENGR 1600. Undergraduate Research Assistant (Sp, Su, Fa). 0 Hours.**

Undergraduate research.

**ENGR 2600. Undergraduate Research Assistant (Sp, Su, Fa). 0 Hours.**

Undergraduate research.

**ENGR 3600. Undergraduate Research Assistant (Sp, Su, Fa). 0 Hours.**

Undergraduate research.

**ENGR 4600. Undergraduate Research Assistant (Sp, Su, Fa). 0 Hours.**

Undergraduate research.

## English (ENGL)

### Courses

**ENGL 0002. Basic Writing (Sp, Su, Fa). 2 Hours.**

A required course for entering freshmen with ACT English scores lower than 19 or SAT verbal scores lower than 470. These students must also enroll in ENGL 1013, Composition I, as a corequisite and successfully complete both courses to fulfill the remediation requirement. Credit earned in this course may not be applied to the total required for a degree. Corequisite: ENGL 1013.

**ENGL 0013. Reading Strategies for College Students (Sp, Su, Fa). 3 Hours.**

The course focuses on developing reading and learning skills and strategies essential for college success with frequent application to college textbooks in a variety of disciplines. University credit is earned, but the course does not count toward a degree. Required of students not meeting U of A reading placement standards.

**ENGL 1013. Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa). 3 Hours.**

Required of all freshmen unless exempted by the Department of English. Prerequisite: ENGL 0002 or an acceptable score on the English section of the ACT or another approved test.

**ENGL 1013H. Honors Composition I (Fa). 3 Hours.**

A course for freshmen with high placement scores. This course is equivalent to ENGL 1013.

**ENGL 1023. Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa). 3 Hours.**

Continuation of ENGL 1013. Prerequisite: ENGL 1013 or equivalent. This course is cross-listed with ENGL 1023H, ENGL 1033.

**ENGL 1023H. Honors Composition II (Sp). 3 Hours.**

Continuation of ENGL 1013H. Prerequisite: Honors candidacy and ENGL 1013H or ENGL 1013 and an acceptable score on the English section of the ACT or another approved test.

This course is cross-listed with ENGL 1023, ENGL 1033.

**ENGL 1033. Technical Composition II (Sp, Su, Fa). 3 Hours.**

Continuation of ENGL 1013, intended for students majoring in Engineering or Business. Prerequisite: ENGL 1013 or equivalent and ENGR or WCOB majors only. This course is cross-listed with ENGL 1023, ENGL 1023H.

**ENGL 1213. Introduction to Literature (Fa). 3 Hours.**

Approaches to reading and writing about fiction, drama, and poetry at the college level.

**ENGL 2003. Advanced Composition (Sp, Su, Fa). 3 Hours.**

Review course in English composition. Exemption for this course may be granted for certain majors that require it by a grade of at least a "B" in ENGL 1013 and ENGL 1023 (or equivalent courses from an accredited institution), by achieving a score of 4 or 5 on the AP Language and Composition Examination and the AP Literature and Composition Examination, or by achieving a 6 HL or 7 HL on the IB Examination in English. Cannot be counted toward a major in English. Prerequisite: ENGL 1013 and ENGL 1023.

**ENGL 2013. Essay Writing (Sp, Su). 3 Hours.**

This course focuses on analyzing and writing creative nonfiction, paying special attention to essay forms: memoir, braided essay, collage or hermit crab essay, and personal reportage. Students enrolling in this course must possess a sound knowledge of sentence structure and standard usage. Prerequisite: ENGL 1013 and ENGL 1023.

**ENGL 2023. Creative Writing I (ACTS Equivalency = ENGL 2013) (Sp, Fa). 3 Hours.**

Beginning level workshop course in which students write original poems and stories. Reading and detailed discussion of poems and stories in anthologies is required. Designed to teach the student the fundamental techniques of fiction and poetry. Prerequisite: ENGL 1013 and ENGL 1023.

**ENGL 2173. Literacy in America (Sp). 3 Hours.**

A course that examines the myriad definitions of literacy (and illiteracy) and their connections to issues of social class, occupational status, economic and political structures, educational institutions, cultural organizations, and the media. This course is cross-listed with CIED 2173.

**ENGL 2303. English Literature from the Beginning through the 17th Century (ACTS = ENGL 2673) (Sp, Fa). 3 Hours.**

A critical and historical survey of the development of literature in the British Isles from its beginnings to the end of the seventeenth century. Prerequisite: ENGL 1013 and ENGL 1023.

**ENGL 2303C. English Literature from the Beginning through the 17th Century (ACTS = ENGL 2673) (Fa). 3 Hours.**

A critical and historical survey of the development of literature in the British Isles from its beginnings to the end of the seventeenth century. Lecture and drill. Prerequisite: ENGL 1013 and ENGL 1023.

**ENGL 2313. Survey of English Literature from 1700 to 1900 (ACTS Equivalency = ENGL 2683) (Sp, Fa). 3 Hours.**

A critical and historical survey of the development of literature in the British Isles from 1700 to 1900. Prerequisite: ENGL 1013 and ENGL 1023.

**ENGL 2323. Survey of Modern and Contemporary British, Irish, and Postcolonial Literature (Sp, Fa). 3 Hours.**

A survey of modern and contemporary literature in English written in Great Britain, Ireland, Africa, Asia, and the Caribbean. Prerequisite: ENGL 1013 and ENGL 1023.

**ENGL 2343. Survey of American Lit from the Colonial Period through Naturalism (ACTS Equiv=ENGL 2653) (Sp, Fa). 3 Hours.**

A survey of major American writers from the colonial period to 1900. Prerequisite: ENGL 1013 and ENGL 1023.

**ENGL 2353. Survey of Modern and Contemporary American Literature (ACTS Equivalency = ENGL 2663) (Sp, Fa). 3 Hours.**

A survey of American writers after 1900. Prerequisite: ENGL 1013 and ENGL 1023.

**ENGL 2413. Introductory Topics in English (Irregular). 3 Hours.**

Students will understand concepts and issues of theme, form, and motif in literary works about the designated topic. Students will improve in their abilities to read literary works carefully and critically and to write about literature correctly and cogently. Topics and content will vary from semester to semester.

**ENGL 3013. Creative Writing II (Sp, Fa). 3 Hours.**

Laboratory course for students who wish to attempt original work in the various literary forms. Prerequisite: ENGL 2023 or equivalent.

**ENGL 3053. Technical and Report Writing (ACTS Equivalency = ENGL 2023) (Sp, Fa). 3 Hours.**

Intensive practice in such types of writing as processes, descriptions of mechanism, abstracts, and laboratory and research reports. The criteria for effective written exposition in the scientific areas, including agriculture and engineering. Prerequisite: ENGL 1013 and ENGL 1023 or equivalent.

**ENGL 3113. Folklore (Irregular). 3 Hours.**

Popular literature (ballads, folktales, etc.). Prerequisite: Junior standing.

**ENGL 3123. Folk and Popular Music Traditions (Irregular). 3 Hours.**

Introduction to folk and popular music studies. Emphasis on American traditions.

**ENGL 3143. Language and Expressive Culture (Irregular). 3 Hours.**

This course explores the complex interrelationship of language, culture, and social identity. Verbal art and expressive culture are examined from a variety of anthropological perspectives. Topics include ethnographies of speaking, discourse analysis, cultural performances, and the performative aspects of oral expression. This course is cross-listed with ANTH 3143, COMM 3143.

**ENGL 3173. Introduction to Linguistics (Irregular). 3 Hours.**

Introduction to language study with stress upon modern linguistic theory and analysis. Data drawn from various languages reveal linguistic universals as well as phonological, syntactic, and semantic systems of individual languages. Related topics: language history, dialectology, language and its relation to culture and society, the history of linguistic scholarship. Prerequisite: Junior standing. This course is cross-listed with ANTH 3173, COMM 3173, WLLC 3173.

**ENGL 3203. Poetry (Sp, Fa). 3 Hours.**

A critical introduction to the genre.

**ENGL 3213. Fiction (Sp, Fa). 3 Hours.**

A critical introduction to the genre.

**ENGL 3223. Drama (Irregular). 3 Hours.**

A critical introduction to the genre.

**ENGL 3263. African Americans in Film (Irregular). 3 Hours.**

A survey of the history of images of African Americans in film, especially as these images are examined in the context of stereotypical renditions and/or realistic representations of African American experiences. Issues of African American history, culture, and socio-political context will be addressed in the analyses of these films. Prerequisite: ENGL 1023 and advanced standing. This course is cross-listed with AAST 3263, JOUR 3263, COMM 3263.

**ENGL 3283. Topics in Popular Culture and Popular Genres (Irregular). 3 Hours.**

Survey of a broad topical area in popular culture and popular genres, such as science fiction or detective fiction. Content varies. May be repeated for up to 9 hours of degree credit.

**ENGL 3433. Introduction to Chaucer (Irregular). 3 Hours.**

Course designed primarily for undergraduates. Extensive reading in Chaucer's major works.

**ENGL 3543. Topics in U.S. Latino/Latina Literature and Culture (Irregular). 3 Hours.**

The study of works of U.S. Latino/Latina literature, with attention to particular themes, genres, authors, literary movements, historical moments, or other organizing principles. Content varies. May be repeated for up to 9 hours of degree credit.

**ENGL 3553. Topics in Native American Literature and Culture (Irregular). 3 Hours.**

The study of works of Native American literature, with attention to particular themes, genres, authors, literary movements, historical moments, or other organizing principles. Content varies. May be repeated for up to 9 hours of degree credit.

**ENGL 3583. Topics in Arab American Literature and Culture (Irregular). 3 Hours.**

The study of works of Arab American literature, with attention to particular themes, genres, authors, literary movements, historical moments, or other organizing principles. Content varies. No knowledge of Arabic necessary. May be repeated for up to 9 hours of degree credit.

**ENGL 3593. Topics in Gender, Sexuality, and Literature (Irregular). 3 Hours.**

The study of gender or sexuality and literature, with attention to specific theories, themes, genres, authors, historical moments, literary movements, or other organizing principles. Content varies. May be repeated for up to 9 hours of degree credit.

**ENGL 3603. Topics in Rhetoric and Composition (Irregular). 3 Hours.**

The study of special topics in the field of Rhetoric and Composition. Content will vary. May be repeated for up to 9 hours of degree credit.

**ENGL 3623. The Bible as Literature (Irregular). 3 Hours.**

The several translations of the Bible; its qualities as great literature; its influence upon literature in English; types of literary forms. This course is cross-listed with WLIT 3623.

**ENGL 3713. Topics in Medieval Literature and Culture (Irregular). 3 Hours.**

Study of the languages, literature, and civilization of the British Isles from approximately 500 to 1500 CE (including Old English, Middle English, Celtic, Anglo-Norman, and Scandinavian). Content varies. May be repeated for up to 9 hours of degree credit.

**ENGL 3723. Topics in Renaissance Literature and Culture (Irregular). 3 Hours.**

The study of literary works of the English Renaissance, with attention to particular themes, genres, authors, literary movements, historical moments, or other organizing principles. Course content varies. May be repeated for up to 9 hours of degree credit.

This course is cross-listed with ENGL 3723H.

**ENGL 3723H. Honors Topics in Renaissance Literature and Culture (Irregular). 3 Hours.**

The study of literary works of the English Renaissance, with attention to particular themes, genres, authors, literary movements, historical moments, or other organizing principles. Course content varies. Prerequisite: Honors standing. May be repeated for up to 9 hours of degree credit.

This course is cross-listed with ENGL 3723.

**ENGL 3733. Topics in Restoration and Eighteenth-Century Literature and Culture (Irregular). 3 Hours.**

The study of Restoration and eighteenth-century literature, with attention to particular themes, genres, authors, literary movements, historical moments, or other organizing principles. Content varies. May be repeated for up to 9 hours of degree credit.

**ENGL 3743. Topics in Nineteenth-Century British Literature and Culture (Irregular). 3 Hours.**

The study of literature of the 19th century, with attention to particular themes, genres, authors, literary movements, historical movements, or other organizing principles. Course content varies. May be repeated for up to 9 hours of degree credit.

**ENGL 3753. Topics in Modern and Contemporary British Literature and Culture (Irregular). 3 Hours.**

The study of a special topic in the field of modern and contemporary British literature and culture. Content varies. May be repeated for up to 9 hours of degree credit.

**ENGL 3763. Topics in Postcolonial Literature and Culture (Irregular). 3 Hours.**

Survey of a broad topical area related to postcolonial literature and culture. Content varies. May be repeated for up to 9 hours of degree credit.

**ENGL 3833. Topics in American Literature and Culture to 1900 (Irregular). 3 Hours.**

The study of American literature and culture to 1900, with attention to particular themes, genres, authors, or other organizing principles. Content varies. May be repeated for up to 9 hours of degree credit.

**ENGL 3843. Topics in Modern and Contemporary American Literature and Culture (Irregular). 3 Hours.**

The study of a special topic in the field of modern and contemporary American literature and culture. Content varies. May be repeated for up to 9 hours of degree credit.

**ENGL 3853. Topics in African-American Literature and Culture (Irregular). 3 Hours.**

The study of works of African American literature, with attention to particular themes, genres, authors, literary movements, historical moments, or other organizing principles. May be repeated for up to 9 hours of degree credit.

This course is cross-listed with AAST 3853.

**ENGL 3863. Topics in Literature and Culture of the American South (Irregular). 3 Hours.**

The study of works of literature of the American South, with attention to particular themes, genres, authors, literary movements, historical moments, or other organizing principles. Content varies. May be repeated for up to 9 hours of degree credit.

**ENGL 3903. Special Topics (Irregular). 3 Hours.**

Survey of a broad topical area related to literature and culture but not otherwise encompassed by the curriculum. Content varies. May be repeated for up to 9 hours of degree credit.

**ENGL 3923H. Honors Colloquium (Irregular). 3 Hours.**

Covers a special topic or issue. Offered as part of the honors program. Prerequisite: honor candidacy (not restricted to candidacy in English). May be repeated for degree credit.

This course is equivalent to ENGL 3923.

**ENGL 399VH. Honors Course (Irregular). 1-6 Hour.**

Prerequisite: junior standing. May be repeated for up to 12 hours of degree credit.

**ENGL 4003. English Language and Composition for Teachers (Irregular). 3 Hours.**

Subject matter and methods of approach for the teaching of composition in high school.

**ENGL 4013. Undergraduate Poetry Workshop (Irregular). 3 Hours.**

Gives close attention to individual manuscripts in a workshop environment. Prerequisite: ENGL 3013 or equivalent.

**ENGL 4023. Undergraduate Fiction Workshop (Irregular). 3 Hours.**

Gives close attention to individual manuscripts in a workshop environment. Prerequisite: ENGL 3013 or equivalent.

**ENGL 4073. Film Writing Workshop (Irregular). 3 Hours.**

A workshop in writing the screenplay with close attention given to student manuscripts and adaptations. Prerequisite: Advanced standing.

**ENGL 4113. Undergraduate Independent Study (Irregular). 3 Hours.**

Undergraduate original research and writing. Prerequisite: 'B' average and two-thirds (21 hours) of regular requirements for English major completed. Departmental approval and instructor approval required. May be repeated for up to 3 hours of degree credit.

**ENGL 4133. Writing Nature (Sp). 3 Hours.**

Study of writings about nature, both scientific and literary. Examination of the basis of each author's relationship with (and definition of) the natural world while examining the literary/aesthetic aspects of that experience. Prerequisite: ENGL 1023. May be repeated for up to 9 hours of degree credit.

**ENGL 4133H. Honors Writing Nature (Sp). 3 Hours.**

Study of writings about nature, both scientific and literary. Examination of the basis of each author's relationship with (and definition of) the natural world while examining the literary/aesthetic aspects of that experience. Prerequisite: ENGL 1023. May be repeated for up to 9 hours of degree credit. This course is equivalent to ENGL 4133.

**ENGL 4143. American Film Survey (Irregular). 3 Hours.**

A survey of major American genres, major directors, and films that have influenced the development of motion pictures.

This course is cross-listed with COMM 4143.

**ENGL 4213. Senior Research Seminar (Irregular). 3 Hours.**

Seminar on a topic in literature in English with a substantial research paper required. May be repeated for up to 3 hours of degree credit.

**ENGL 4303. Introduction to Shakespeare (Sp, Su, Fa). 3 Hours.**

Extensive reading in Shakespeare's comedies, histories, tragedies, and nondramatic poetry.

**ENGL 4503. Introduction to Literary Theory (Irregular). 3 Hours.**

A historical survey of literary theory from Plato onwards.



**ENGL 4513. Studies in Literary Criticism and Theory (Irregular). 3 Hours.**

A survey of contemporary trends in literary criticism. Emphasis will be placed on engaging the practices of a particular theory. Content varies. May be repeated for up to 9 hours of degree credit.

**ENGL 4523. Studies in U.S. Latino/Latina Literature and Culture (Irregular). 3 Hours.**

The study of works of U.S. Latino/a literature, with attention to particular themes, genres, authors, literary movements, historical moments, or other organizing principles. Content varies. At least one major research paper will be required. May be repeated for up to 9 hours of degree credit.

**ENGL 4533. Studies in Literature and Gender (Irregular). 3 Hours.**

The study of a special topic involving literature and gender. Content varies. May be repeated for up to 9 hours of degree credit.

**ENGL 4553. Studies in Native American Literature and Culture (Irregular). 3 Hours.**

The study of works of Native American literature, with attention to particular themes, genres, authors, literary movements, historical moments, or other organizing principles. Content varies. At least one major research paper will be required. May be repeated for up to 9 hours of degree credit.

**ENGL 4563. Studies in Major Authors (Irregular). 3 Hours.**

The concentrated study of works by one or more major authors. At least one major paper will be required. Content varies. May be repeated for up to 9 hours of degree credit.

**ENGL 4573. Studies in Major Literary Movements (Irregular). 3 Hours.**

This course focuses on the literature either of a major literary movement such as Romanticism or Modernism or of a more specific topic such as Utopianism in twentieth-century writing. Content varies. May be repeated for up to 9 hours of degree credit.

**ENGL 4583. Studies in Arab American Literature and Culture (Irregular). 3 Hours.**

The study of works of Arab American literature, with attention to particular themes, genres, authors, literary movements, historical moments, or other organizing principles. Content varies. Research paper required. No knowledge of Arabic necessary. May be repeated for up to 9 hours of degree credit.

**ENGL 4593. Studies in Gender, Sexuality, and Literature (Irregular). 3 Hours.**

The study of gender or sexuality and literature, with attention to specific theories, themes, genres, authors, historical moments, literary movements, or other organizing principles. Content varies. At least one major research paper will be required. May be repeated for up to 9 hours of degree credit.

**ENGL 4603. Special Studies (Irregular). 3 Hours.**

Concentrated study of a specific topical area related to literature and culture but not otherwise encompassed by the curriculum. Content varies. May be repeated for up to 3 hours of degree credit.

**ENGL 4603H. Honors Special Studies (Irregular). 3 Hours.**

Concentrated study of a specific topical area related to literature and culture but not otherwise encompassed by the curriculum. Content varies. May be repeated for degree credit.

This course is equivalent to ENGL 4603.

**ENGL 4713. Studies in Medieval Literature and Culture (Irregular). 3 Hours.**

Study of the languages, literature, and civilization of the British Isles from approximately 500 to 1500 CE (including Old English, Middle English, Celtic, Anglo-Norman, and Scandinavian). Content varies. At least one major research paper will be required. May be repeated for up to 9 hours of degree credit.

**ENGL 4723. Studies in Renaissance Literature and Culture (Irregular). 3 Hours.**

The study of literary works of the English Renaissance, with attention to particular themes, genres, authors, literary movements, historical moments, or other organizing principles. Course content varies. At least one major research paper will be required. May be repeated for up to 9 hours of degree credit.

**ENGL 4733. Studies in Restoration and Eighteenth-Century Literature (Irregular). 3 Hours.**

The study of Restoration and eighteenth-century literature, with attention to particular themes, genres, authors, literary movements, historical moments, or other organizing principles. Content varies. At least one major research paper will be required. May be repeated for up to 9 hours of degree credit.

**ENGL 4743. Studies in Nineteenth-Century British Literature and Culture (Irregular). 3 Hours.**

The study of literature of the nineteenth century, with attention to particular themes, genres, authors, literary movements, historical moments, or other organizing principles. Course content varies. At least one major research paper will be required. May be repeated for up to 9 hours of degree credit.

**ENGL 4753. Studies in Modern and Contemporary British Literature and Culture (Irregular). 3 Hours.**

The study of modern and contemporary British literature and culture. Content varies. At least one major research paper will be required. May be repeated for up to 9 hours of degree credit.

**ENGL 4763. Studies in Postcolonial Literature and Culture (Irregular). 3 Hours.**

The study of postcolonial literature and culture. Content varies. At least one major research paper will be required. May be repeated for up to 9 hours of degree credit.

**ENGL 4833. Studies in American Literature and Culture to 1900 (Irregular). 3 Hours.**

The study of American literature and culture to 1900, with attention to particular themes, genres, authors, or other organizing principles. Content varies. At least one major research paper will be required. May be repeated for up to 9 hours of degree credit.

**ENGL 4843. Studies in Modern and Contemporary American Literature and Culture (Irregular). 3 Hours.**

The study of modern and contemporary American literature and culture, with attention to particular themes, genres, authors, or other organizing principles. Content varies. At least one major research paper will be required. May be repeated for up to 9 hours of degree credit.

**ENGL 4853. Studies in African American Literature and Culture (Irregular). 3 Hours.**

The study of works of African American literature, with attention to particular themes, genres, authors, literary movements, historical moments, or other organizing principles. At least one major research paper will be required. May be repeated for up to 9 hours of degree credit.

This course is cross-listed with AAST 4853.

**ENGL 4863. Studies in Literature and Culture of the American South (Irregular). 3 Hours.**

The study of works of literature of the American South, with attention to particular themes, genres, authors, literary movements, historical moments, or other organizing principles. Content varies. At least one major research paper will be required. May be repeated for up to 9 hours of degree credit.

**ENGL 4903. Studies in Rhetoric and Composition (Irregular). 3 Hours.**

Concentrated study of a specific topical area related to Rhetoric and Composition. Content varies. May be repeated for up to 9 hours of degree credit.

**ENGL 4933. Studies in Popular Culture and Popular Genres (Irregular). 3 Hours.**

The study of a focused topical area in popular culture and popular genres, such as science fiction or detective fiction. Content varies. At least one major research paper will be required. May be repeated for up to 9 hours of degree credit.

**ENGL 498V. Senior Thesis (Irregular). 1-6 Hour.**

Honors thesis under the direction of a faculty member in the Department of English. May be repeated for up to 6 hours of degree credit.

**ENGL 5003. Composition Pedagogy (Fa). 3 Hours.**

Introduction to teaching college composition. Designed for graduate assistants at the University of Arkansas.

**ENGL 5013. Creative Writing Workshop (Irregular). 3 Hours.****ENGL 5023. Writing Workshop: Fiction (Irregular). 3 Hours.**

Fiction writing workshop. Prerequisite: Creative Writing MFA students only.

**ENGL 5033. Writing Workshop: Poetry (Irregular). 3 Hours.**

Poetry writing workshop. Prerequisite: Creative Writing MFA students only.

**ENGL 5043. Translation Workshop (Irregular). 3 Hours.**

Problems of translation and the role of the translator as both scholar and creative writer; involves primarily the discussion in workshop of the translations of poetry, drama, and fiction done by the students, some emphasis upon comparative studies of existing translations of well-known works. Primary material will vary. Prerequisite: Reading knowledge of a foreign language and Creative Writing MFA students only. May be repeated for up to 15 hours of degree credit. This course is cross-listed with WLLC 504V.

**ENGL 5063. English Language and Composition for Teachers (Sp, Fa). 3 Hours.**

Subject matter and methods of approach for the teaching of composition in high school.

**ENGL 507V. Creative Non-Fiction Workshop (Irregular). 1-3 Hour.**

The theory and practice of the "New Journalism" with a study of its antecedents and special attention to the use of "fictional" techniques and narrator point of view to make more vivid the account of real people and real events.

**ENGL 5083. Professing Literature (Irregular). 3 Hours.**

An introduction to the profession of English studies and the teaching of English at the college level.

**ENGL 510V. Readings in English and American Literature (Irregular). 1-6 Hour.**

Open to Honors candidates and graduate students. Prerequisite: Departmental approval and instructor approval required. May be repeated for degree credit.

**ENGL 5173. Advanced Studies in Medieval Literature and Culture (Irregular). 3 Hours.**

Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

**ENGL 5183. The Structure of Present English (Sp). 3 Hours.**

Structural analysis of the language.

**ENGL 5193. Graduate Internship in English (Irregular). 3 Hours.**

Internship changes depending on availability and student interest. Departmental consent required.

**ENGL 5203. Introduction to Graduate Studies (Irregular). 3 Hours.**

Develop knowledge and strategies for successfully negotiating graduate work and the profession. Topics covered include, but are not limited to, scholarly habits and practices, writing and publishing skills, scholarly associations, journals, conferences, university structures, and career paths. Emphasis on the development of individual academic and professional goals.

**ENGL 5213. Portfolio Workshop (Sp). 3 Hours.**

Workshop designed for students in the M.A. Program in English who are using the Portfolio Option to complete the program. Instructor consent required.

**ENGL 5223. Advanced Studies in Renaissance Literature and Culture (Irregular). 3 Hours.**

Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

**ENGL 5233. Craft of Translation: I (Irregular). 3 Hours.**

An examination of the principal challenges that confront translators of literature, including the recreation of style, dialect, ambiguities, and formal poetry; vertical translation; translation where multiple manuscripts exist; and the question of how literal a translation should be.

**ENGL 5243. Special Topics (Irregular). 3 Hours.**

Designed to cover subject matter not offered in other courses. May be repeated for degree credit.

**ENGL 5263. Craft of Fiction: I (Irregular). 3 Hours.**

Such aspects of the genre as scene, transition, character, and conflict. Discussion is limited to the novel.

**ENGL 5273. Craft of Poetry: I (Irregular). 3 Hours.**

An examination of perception, diction, form, irony, resolution, and the critical theories of the major writers on poetry, such as Dryden, Coleridge, and Arnold.

**ENGL 5283. Craft of Fiction: II (Irregular). 3 Hours.**

Second part of the study of the techniques of fiction. Discussion is limited to the short story. Prerequisite: ENGL 5263.

**ENGL 5293. Craft of Poetry: II (Irregular). 3 Hours.**

Second part of the study of the techniques of poetry; independent study of a poet or a problem in writing or criticism of poetry.

**ENGL 5303. Advanced Studies in Restoration and Eighteenth-Century British Literature and Culture (Irregular). 3 Hours.**

Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

**ENGL 5313. Introduction to Literary Theory (Irregular). 3 Hours.**

An advanced introductory survey of a number of theoretical approaches to literature.

**ENGL 5403. Advanced Studies in Nineteenth-Century British Literature and Culture (Irregular). 3 Hours.**

Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

**ENGL 5413. Advanced Studies in Modern and Contemporary British Literature and Culture (Irregular). 3 Hours.**

Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

**ENGL 5463. Descriptive Linguistics (Fa). 3 Hours.**

A scientific study of language with primary emphasis on modern linguistic theory and analysis. Topics include phonology, morphology, syntax, semantics, language acquisition, and historical development of world languages. This course is cross-listed with WLLC 5463, ANTH 5473.

**ENGL 5513. Document Design for Technical Writers (Odd years, Fa). 3 Hours.**

Focuses on the role of document design in technical and professional writing. Covers industry standard software and theories of rhetorically-centered document design. Special emphasis on creating print-ready technical documents such as manuals, catalogs, and infographics.

**ENGL 5523. Technical Writing for Online Audiences (Even years, Fa). 3 Hours.**

Investigates the medium-specific challenges of preparing technical documents for online audiences. Covers user-centered theory, strategies, and skills for online writing, HTML, CSS, and web standards. Specific focus on creating organizational websites with editorial workflows geared towards technical writers.

**ENGL 5533. Technical Writing Praxis (Su). 3 Hours.**

Focuses on the process of applying theory to situated practice in technical writing. The first portion of the course will lay out the fundamentals of technical writing theory, with the second half situating that theory within genre-specific practice. Second-half topics will vary by instructor interest and expertise. May be repeated for up to 6 hours of degree credit.

**ENGL 5543. Advanced Studies in U.S. Latino/Latina Literature and Culture (Irregular). 3 Hours.**

The study of works of U.S. Latino/a literature and literary criticism, with attention to particular themes, genres, authors, literary movements, historical moments, or other organizing principles. Content varies. May be repeated for up to 12 hours of degree credit.

**ENGL 5563. Advanced Studies in Native American Literature and Culture (Irregular). 3 Hours.**

The study of works of Native American literature, with attention to particular themes, genres, authors, literary movements, historical moments, or other organizing principles. Content varies. May be repeated for up to 12 hours of degree credit.

**ENGL 5583. Advanced Studies in Arab American Literature and Culture (Irregular). 3 Hours.**

The study of works of Arab American literature and criticism, with attention to particular themes, genres, authors, literary movements, historical moments, or other organizing principles. Content varies. Research paper required. No knowledge of Arabic necessary. May be repeated for up to 12 hours of degree credit.

**ENGL 5593. Advanced Studies in Gender, Sexuality, and Literature (Irregular). 3 Hours.**

The study of gender or sexuality and literature, with attention to specific theories, themes, genres, authors, historical moments, literary movements, or other organizing principles. Content varies. May be repeated for up to 12 hours of degree credit.

**ENGL 5603. World Literature and Culture in English (Irregular). 3 Hours.**

Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

**ENGL 5623. The Bible as Literature (Irregular). 3 Hours.**

The several translations of the Bible; its qualities as great literature; its influence upon literature in English; types of literary forms. This course is cross-listed with WLIT 5623.

**ENGL 5633. English Drama from Its Beginning to 1642 (Irregular). 3 Hours.**

Early forms, Tudor drama, Shakespeare's contemporaries, and Stuart drama to the closing of the theatres.

**ENGL 5653. Shakespeare: Plays and Poems (Irregular). 3 Hours.**

An introduction to a broad selection of Shakespeare's work.

**ENGL 569V. Seminar in Film Studies (Irregular). 1-3 Hour.**

Research, discussion; papers on a variety of film genres and areas including the new American film, the science-fiction film, directors, film comedy, the experimental film, criticism, the film musical. May be repeated for up to 6 hours of degree credit. This course is cross-listed with COMM 569V.

**ENGL 5703. Advanced Studies in American Literature and Culture Before 1900 (Irregular). 3 Hours.**

Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

**ENGL 5723. Advanced Studies in Literature and Culture of the American South (Irregular). 3 Hours.**

Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

**ENGL 5763. Advanced Studies in Postcolonial Literature and Culture (Irregular). 3 Hours.**

Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

**ENGL 5803. Advanced Studies in Modern and Contemporary American Literature and Culture (Irregular). 3 Hours.**

Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

**ENGL 5863. Advanced Studies in African American Literature and Culture (Irregular). 3 Hours.**

The study of works of African American literature and literary criticism, with attention to particular themes, genres, authors, literary movements, historical moments, or other organizing principles. Content varies. May be repeated for up to 12 hours of degree credit.

**ENGL 5923. Advanced Studies in Film and Media (Irregular). 3 Hours.**

Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

**ENGL 5933. Advanced Studies in Popular Culture and Popular Genres (Irregular). 3 Hours.**

Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

**ENGL 5943. Advanced Studies in Criticism and Literary Theory (Irregular). 3 Hours.**

Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

**ENGL 5953. Advanced Studies in Literary History (Irregular). 3 Hours.**

Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

**ENGL 5963. Advanced Studies in Technical Writing and Public Rhetorics (Irregular). 3 Hours.**

Subject matter changes depending on student interest and faculty expertise. Course will cover various topics relevant to students working in Technical Writing and Public Rhetorics. May be repeated for up to 6 hours of degree credit.

**ENGL 5973. Advanced Studies in Rhetoric and Composition (Irregular). 3 Hours.**

Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

**ENGL 6113. Seminar in Medieval Literature and Culture (Irregular). 3 Hours.**

Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

**ENGL 6193. The Development of English (Fa). 3 Hours.**

Intensive course in the fundamentals of linguistic study and their application to the history of English from prehistoric times to the present.

**ENGL 6203. Seminar in Renaissance Literature and Culture (Irregular). 3 Hours.**

Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

**ENGL 6243. Seminar in Special Topics (Irregular). 3 Hours.**

Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

**ENGL 6313. Seminar in Restoration and Eighteenth-Century British Literature and Culture (Irregular). 3 Hours.**

Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

**ENGL 6443. Seminar in Nineteenth-Century British Literature and Culture (Irregular). 3 Hours.**

Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

**ENGL 6513. Seminar in Modern and Contemporary British Literature and Culture (Irregular). 3 Hours.**

Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

**ENGL 6543. Seminar in U.S. Latino/Latina Literature and Culture (Irregular). 3 Hours.**

The study of works of U.S. Latino/a literature and literary criticism, with attention to particular themes, genres, authors, literary movements, historical moments, or other organizing principles. Content varies. At least one major research paper, suitable for presentation or publication, will be required. May be repeated for up to 12 hours of degree credit.

**ENGL 6553. Seminar in Native American Literature and Culture (Irregular). 3 Hours.**

The study of works of Native American literature, with attention to particular themes, genres, authors, literary movements, historical moments, or other organizing principles. Content varies. At least one major research paper, suitable for presentation or publication, will be required. May be repeated for up to 12 hours of degree credit.

**ENGL 6583. Seminar in Arab American Literature and Culture (Irregular). 3 Hours.**

The study of works of Arab American literature and criticism, with attention to particular themes, genres, authors, literary movements, historical moments, or other organizing principles. Content varies. Research paper required. No knowledge of Arabic necessary. May be repeated for up to 12 hours of degree credit.

**ENGL 6593. Seminar in Gender, Sexuality, and Literature (Irregular). 3 Hours.**

The study of gender or sexuality and literature, with attention to specific theories, themes, genres, authors, historical moments, literary movements, or other organizing principles. Content varies. At least one major research paper, suitable for presentation or publication, will be required. May be repeated for up to 12 hours of degree credit.

**ENGL 6613. Seminar in World Literature and Culture in English (Irregular). 3 Hours.**

Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

**ENGL 6723. Seminar in American Literature and Culture Before 1900 (Irregular). 3 Hours.**

Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

**ENGL 6733. Seminar in Literature and Culture of the American South (Irregular). 3 Hours.**

Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

**ENGL 6763. Seminar in Postcolonial Literature and Culture (Irregular). 3 Hours.**

Subject matter changes depending on student interest and faculty expertise. At least one major research paper, suitable for presentation or publication, will be required. May be repeated for up to 12 hours of degree credit.

**ENGL 6803. Seminar in Modern and Contemporary American Literature and Culture (Irregular). 3 Hours.**

Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

**ENGL 6853. Seminar in African American Literature and Culture (Irregular). 3 Hours.**

The study of works of African American literature and literary criticism, with attention to particular themes, genres, authors, literary movements, historical moments, or other organizing principles. Content varies. At least one major research paper, suitable for presentation or publication, will be required. May be repeated for up to 12 hours of degree credit.

**ENGL 6923. Seminar in Film and Media (Irregular). 3 Hours.**

Extensive research into, and discussion of, a focused topic in film studies, with emphasis upon film as text. Extended project required. Course topic varies. May be repeated for up to 12 hours of degree credit.

**ENGL 6933. Seminar in Popular Culture and Popular Genres (Irregular). 3 Hours.**

Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

**ENGL 6943. Seminar in Criticism and Literary Theory (Irregular). 3 Hours.**

Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

**ENGL 6953. Seminar in Literary History (Irregular). 3 Hours.**

Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

**ENGL 6973. Seminar in Rhetoric and Composition (Irregular). 3 Hours.**

Subject matter changes depending on student interest and faculty expertise. May be repeated for up to 12 hours of degree credit.

**ENGL 698V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.****ENGL 699V. Master of Fine Arts Thesis (Sp, Su, Fa). 1-6 Hour.****ENGL 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Doctoral Dissertation. May be repeated for degree credit.

## English Language and Cultural Studies (ELAC) Courses

**ELAC 0011. Writing Workshop: Grammar through Editing (Sp, Fa). 1 Hour.**

This class is designed to assist upper-intermediate to advanced non-native speakers of English improve their academic writing at the sentence level. Students' writing is analyzed for grammatical accuracy; students develop strategies for editing their writing more independently and learn to produce clearer, more grammatically correct writing. Not for degree credit. Prerequisite: Placement through TOEFL iBT Writing / TOEFL TWE / IELTS writing / UofA ELPT (writing) / TOEFL Alternative.

**ELAC 0023. Introduction to Academic Writing (Sp Fa). 3 Hours.**

To enhance reading comprehension and academic writing skills of non-native speakers of English at the upper-intermediate level. Through extended readings, students improve their ability to recognize main ideas, distinguish support, respond to content & build vocabulary. Students improve their writing at the paragraph and essay level. Not for degree credit. Prerequisite: Placement through TOEFL iBT Writing / TOEFL TWE / IELTS writing / UofA ELPT (writing) / TOEFL Alternative.

**ELAC 1023. Academic Writing Across Disciplines (Sp, Fa). 3 Hours.**

The class is designed to improve the academic writing and critical thinking skills for non-native speakers of English in all fields. Through focused instruction and extensive practice, students will improve their academic lexicon, grammatical accuracy, discourse organization and fluency in formal academic writing. Not for degree credit in the Fulbright College of Arts and Sciences. Prerequisite: Placement through TOEFL iBT Writing / TOEFL TWE / IELTS writing / UofA ELPT (writing) / TOEFL Alternative.

**ELAC 1033. English Language through Mass Media (Sp, Fa). 3 Hours.**

Students expand their communicative language skills through the study of news and media. By analyzing the messages and methods used in a variety of sources, students improve their listening, speaking, reading and writing skills. Students develop critical thinking skills as they evaluate and synthesize ideas from the texts. Not for degree credit in the Fulbright College of Arts and Sciences. Prerequisite: Placement through TOEFL iBT Writing / TOEFL TWE / IELTS writing / UofA ELPT (writing) / TOEFL Alternative.

**ELAC 1012. English Phonology for Non-Native Speakers (Sp, Fa). 2 Hours.**

In this course students study the basic principles of phonetics and phonology of English in order to develop their ability to produce the standard American accents. Not for degree credit in the Fulbright College of Arts and Sciences.

**ELAC 2023. Business English Communications (Sp, Fa). 3 Hours.**

This is a course for non-native English speakers to develop their oral communication skills for professional business settings. From informal dialogues to formal business presentations, students learn appropriate verbal and non-verbal communication strategies and develop confidence to communicate effectively and comprehensibly. Not for degree credit in the Fulbright College of Arts and Sciences. Prerequisite: Placement through TOEFL iBT Writing / TOEFL TWE / IELTS writing / UofA ELPT (writing) / TOEFL Alternative.

**ELAC 2033. Principles of Research Writing for Non-Native Speakers (Sp, Fa). 3 Hours.**

This advanced level, research-focused writing class is designed to help non-native speakers of English communicate their understanding of course material and research more accurately and effectively. Students also improve their ability to orally present their ideas with confidence and clarity. Not for degree credit in the Fulbright College of Arts and Sciences. Prerequisite: Placement through TOEFL iBT Writing / TOEFL TWE / IELTS writing / UofA ELPT (writing) / GRE Analytical Writing / GMAT Analytical Writing / TOEFL Alternative. Undergraduates require instructor permission.

**ELAC 2043. Seminar in United States Culture, Communication, and Institutions (Sp, Fa). 3 Hours.**

Through an in-depth study of American life, culture, communicative style and institutions, non-native speakers of English improve their oral and written communication skills. Not for degree credit in the Fulbright College of Arts and Sciences. Prerequisite: Placement through TOEFL iBT Writing / TOEFL TWE / IELTS writing / UofA ELPT (writing) / GRE Analytical Writing / GMAT Analytical Writing / TOEFL Alternative.

**ELAC 2053. Academic Presentations (Sp, Fa). 3 Hours.**

For advanced non-native speakers of English to build skills and strategies for delivering effective, clear presentations in academic and professional settings. Students learn about organization, best use of visual aids, connecting with an audience, facilitating questions and answers, and intercultural issues that affect perception and comprehensibility. Not for degree credit in the Fulbright College of Arts and Sciences. Prerequisite: At the request of an instructor or through TOEFL (iBT) exam, spoken portion of the International English Language Testing System (IELTS), or the University of Arkansas Spoken Language Proficiency Test (SLPT).

**ELAC 4033. Research Writing for the Social Sciences and Education (Sp, Su, Fa). 3 Hours.**

This research-focused writing class will help non-native English speakers in the social sciences and education communicate their understanding of course material and research more accurately and effectively. Students will focus on the genres specific to their fields. They will also improve their ability to orally present their ideas. Prerequisite: Language assessment required.

**ELAC 4043. Research Writing in the STEM Fields (Sp, Su, Fa). 3 Hours.**

A research-based writing class for non-native speakers of English that focuses on the demands of writing in the STEM fields. Students will develop their ability to accurately and effectively use the conventions of scientific writing. Students will improve their ability to orally present their research. Prerequisite: Language assessment required.

**ELAC 5033. Research Writing for the Social Sciences and Education (Sp, Fa). 3 Hours.**

This research-focused writing class will help graduate-level non-native English speakers in the social sciences and education communicate their understanding of course material and research more accurately and effectively. Students will focus on the genres specific to their fields. They will also improve their ability to orally present their ideas. Prerequisite: Placement through TOEFL iBT Writing / TOEFL TWE / IELTS writing / U of A ELPT (writing) / GRE Analytical Writing / GMAT Analytical Writing / TOEFL Alternative.

**ELAC 5043. Research Writing in the STEM Fields (Sp, Fa). 3 Hours.**

A research-based writing class for graduate-level non-native speakers of English that focuses on the demands of writing in the STEM fields. Students will develop their ability to accurately and effectively use the conventions of scientific writing. Students will improve their ability to orally present their research. Prerequisite: Placement through TOEFL iBT Writing / TOEFL TWE / IELTS writing / U of A ELPT (writing) / GRE Analytical Writing / GMAT Analytical Writing / TOEFL Alternative.

**ELAC 5050. International Graduate Teaching Assistant Training (Sp, Fa). 0 Hours.**

To prepare international graduate assistants to assist or teach in U.S. university classes. The course focuses on enhancing teaching and communication skills, and cultural knowledge. Students are non-native speakers of English who currently have a teaching assistantship or plan to obtain one in the following semester. Not for degree credit. Prerequisite: Language assessment required.

**ELAC 5060. Intensive Training for International Graduate Teaching Assistants (Su). 0 Hours.**

This is a three-week intensive training course to prepare international graduate assistants to assist or teach in university classes. The course content focuses on enhancing teaching and communication skills, and cultural knowledge. Not for degree credit. Pre- or Corequisite: This course is for students that have already been awarded a teaching assistantship. Prerequisite: At the request of an instructor or self-placement or through TOEFL (iBT) exam, spoken portion of the International English Language Testing System (IELTS), or the University of Arkansas Spoken Language Proficiency Test (SLPT).

## English as Second Language (EASL) Courses

**EASL 0021. Advanced English Grammar (Sp, Su, Fa). 1 Hour.**

Presentation of a general overview of the verb, modal, and article in English. Review and practice on compound and complex sentences. Practice of grammatical structure orally and in writing. Not for degree credit. Prerequisite: ESL placement test.

**EASL 0023. Reading and Writing I (Sp, Su, Fa). 3 Hours.**

Work on improving skills necessary to write a well-organized, thought-provoking essay incorporating paraphrased, summarized, and quoted ideas from various sources. Introduction to several rhetorical patterns. Critical reading skills practice, understanding inferences, and improving reading skills comprehension. Not for degree credit. Corequisite: Lab component. Prerequisite: ESL placement test.

**EASL 0033. Reading and Writing II (Sp, Su, Fa). 3 Hours.**

Advanced writing of formal documented, organized, and thought-provoking essays. Students will learn to read passages/articles in English proficiently and maintain discussion with near-native abilities and confidence. Not for degree credit. Corequisite: Lab component. Prerequisite: ESL placement test.

**EASL 0041. Pronunciation (Sp, Su, Fa). 1 Hour.**

Students learn to generate native-sounding speech and increase their intelligibility by working specifically on accent reduction, pronunciation, intonation patterns, and fluency. Credit earned in this course may not be applied to the total required for a degree. Prerequisite: ESL placement test.

**EASL 0053. ESL Listening and Speaking (Sp, Su, Fa). 3 Hours.**

For improvement of aura/oral skills by international students. Includes the basic practice in fluency, clarity, intonation, stress, and pronunciation. Students give presentations and participate in academic discussions. Credit earned in this course may not be applied to the total required for a degree. Prerequisite: ESL placement test.

## Entomology (ENTO) Courses

**ENTO 1021L. Insects in Science, the Arts, and Human History Laboratory (Sp). 1 Hour.**

To educate students on the importance of insects in biology and science, human and animal medicine, ecosystems, agriculture, pollination, genetic research, the arts, and human culture and history. The lab will be a hands-on approach to reinforcing entomological concepts addressed in lecture. Pre- or corequisite: ENTO 1023.

**ENTO 1023. Insects, Science and Society (Sp). 3 Hours.**

To educate students on the importance of insects in biology and science, human and animal medicine, ecosystems, agriculture, pollination, genetic research, the arts, and human culture and history. Corequisite: ENTO 1021L.

**ENTO 3011L. Introduction to Insect Identification Lab (Fa). 1 Hour.**

Introductory lab course on insect identification, collection, and curation techniques, primarily designed as an intensive add-on to ENTO 3013 for students wanting a more in-depth examination of insect diversity. Insect collection required. Course includes field trips. Students are encouraged to contact instructor before enrolling. Pre- or Corequisite: ENTO 3013.

This course is equivalent to BIOL 3011L.

**ENTO 3013. Introduction to Entomology (Fa). 3 Hours.**

Fundamentals of insect biology including structure and function, development, ecology, behavior, plant feeding and disease transmission. Lecture 3 hours/week. Students interested in a more intensive examination of insects, including collection, curation, and identification techniques, should sign up for the separate one credit lab ENTO 3011L. Suggested prerequisite: BIOL 1543.

This course is cross-listed with BIOL 3013.

**ENTO 400V. Special Problems (Sp, Su, Fa). 1-4 Hour.****ENTO 4013. Insect Behavior and Chemical Ecology (Even years, Sp). 3 Hours.**

Basic concepts in insect senses and patterns of behavioral responses to various environmental stimuli. Previous knowledge of basic entomology is helpful, but not required. Lecture 2 hours, laboratory/discussion 2 hours per week. Corequisite: Lab component.

This course is cross-listed with BIOL 4013.

**ENTO 4024. Insect Diversity and Taxonomy (Even years, Fa). 4 Hours.**

Principles and practices of insect classification and identification with emphasis on adult insects. Corequisite: Lab component. Prerequisite: ENTO 3013.

This course is cross-listed with BIOL 4024.

**ENTO 4043. Apiculture (Odd years, Sp). 3 Hours.**

Review of social behavior of insects and its exemplification in Honeybees. Previous knowledge of basic entomology is helpful but not required. Lecture 2 hours, laboratory 2 hours per week. Corequisite: Lab component.

**ENTO 4053. Insect Ecology (Even years, Fa). 3 Hours.**

To develop understanding of important ecological concepts through study of dynamic relationships among insects and their environment. To become familiar with the literature of insect ecology, and interpretation and critique of ecological research. Previous knowledge of basic entomology and/or ecology will be assumed. Corequisite: Lab component.

This course is cross-listed with BIOL 4053.

**ENTO 410V. Special Topics (Irregular). 1-3 Hour.**

Special Topics course available to both undergraduate and graduate students, to address emerging issues and timely topics. This would supplement our graduate-only special topics course. May be repeated for degree credit.

**ENTO 4123. Insect Pest Management (Odd years, Sp). 3 Hours.**

Study of principles and concept of insect pest management. Areas covered include survey of arthropod pests and damage, population dynamics, damage thresholds, physiological units, prediction models, surveillance, arthropod sampling, strategies and tactics utilized to maintain pest populations below economic injury levels.

Prerequisite: ENTO 3013.

**ENTO 4133. Advanced Applied Entomology (Even years, Sp). 3 Hours.**

Biology and ecology of major arthropod pests as model applied management systems. Activities include independent study, literature review and group discussions. Knowledge of general entomology and pest management is required. Self-learning modules are available. Lecture 2 hours/week and direct self-study laboratory 2 hours/week. Corequisite: Lab component. Prerequisite: ENTO 3013.

**ENTO 462V. Internship (Irregular). 3-6 Hour.**

Supervised practical work experience in pest management to develop and demonstrate professional competence. A maximum of 6 hours credit per semester or summer session is permitted. Faculty approval of projects proposal prior to enrollment, and written or oral reports are required.

**ENTO 500V. Special Problems (Sp, Su, Fa). 1-4 Hour.**

Prerequisite: graduate standing. May be repeated for up to 4 hours of degree credit.

**ENTO 5013. Morphology of Insects (Odd years, Fa). 3 Hours.**

Origin, evolution, and functional significance of external insect structure. Structure and function of major internal systems. Previous knowledge of basic entomology is helpful, but not required. Lecture 2 hours, laboratory 4 hours per week. Corequisite: Lab component.

**ENTO 5123. Biological Control (Odd years, Fa). 3 Hours.**

Theoretical and practical basis for biological control of arthropod pests and weeds via parasites, predators, and pathogens. Lecture 2 hours, laboratory 2 hours per week. Corequisite: Lab component.

**ENTO 5133. Insect Molecular Genetics (Even years, Sp). 3 Hours.**

A hands on course in insect molecular genetic techniques including molecular diagnostics and population genetics. Students will learn how to apply advanced molecular genetic methodologies and Internet database resources to insects that they are using for their graduate research.

This course is cross-listed with BIOL 5133.

**ENTO 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Master's Thesis. Prerequisite: graduate standing. May be repeated for degree credit.

**ENTO 6071. Seminar (Sp, Fa). 1 Hour.**

Fall: special topics not covered in regular course work. Spring: critical review of research papers in entomology. Seminar will be taken by graduate student majors for both semesters. May be repeated for up to 6 hours of degree credit.

**ENTO 6113. Insect Physiology and Molecular Biology (Even years, Sp). 3 Hours.**

Overview of insect physiology and modern molecular techniques to study physiological processes. Previous knowledge of basic entomology is helpful, but not required. Two lectures per week (1 hour 20 minutes each). This course is cross-listed with BIOL 6113.

**ENTO 6213. Insect Toxicology (Odd years, Fa). 3 Hours.**

Toxicology of chemicals to insects and humans including techniques of testing collecting data, and factors that influence reactions to different classes of insecticides. Previous knowledge of organic physiological chemistry is helpful, but not required. Lecture 2 hours, laboratory 2 hours per week. Corequisite: Lab component.

**ENTO 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Doctoral Dissertation. Prerequisite: Graduate standing. May be repeated for degree credit.

## Environmental Dynamics (ENDY) Courses

**ENDY 5043. GIS Analysis and Modeling (Sp). 3 Hours.**

Unlike conventional GIS courses that focus on studying "where", this course will teach students to address beyond "where" using various GIS analysis and modeling techniques to explore "why" and "how". The course will provide theoretical and methodological reviews of the principles of cartographic modeling and multi-criteria decision-making.

This course is cross-listed with GEOS 5653, ANTH 5653.

**ENDY 5053. Quaternary Environments (Fa). 3 Hours.**

An interdisciplinary study of the Quaternary Period including dating methods, deposits soils, climates, tectonics and human adaptations.

This course is cross-listed with ANTH 5053, GEOS 5053.

**ENDY 5113. Global Change (Sp). 3 Hours.**

Examines the interacting natural and anthropogenic factors involved in global change, concentrating on climate variability and change. Prerequisite: Graduate standing or instructor's approval.

This course is cross-listed with GEOS 5113.

**ENDY 5153. Environmental Site Assessment (Irregular). 3 Hours.**

Principles, problems, and methods related to conducting an environmental site assessment. An applied course covering field site assessment, regulatory documentation, and report preparation. Prerequisite: GEOS 4033 or GEOS 5263 (formerly GEOS 4033).

This course is cross-listed with GEOS 5153.

**ENDY 5853. Environmental Isotope Geochemistry (Sp). 3 Hours.**

Introduction to principles of isotope fractionation and distribution in geological environments isotopic analytical methods, and extraction of isotope samples; application of isotopes in characterization of geologic processes and interaction with hydrologic, surficial, and biologic attenuation, paleothermometry soil and biochemical processes.

This course is cross-listed with GEOS 5853.

**ENDY 6013. Environmental Dynamics (Fa). 3 Hours.**

Required course for ENDY doctoral candidates. Overview of Earth Systems: Lithosphere; Hydrosphere, Atmosphere, Biosphere, Cryosphere, and human interaction across Earth systems. Emphasis on understanding of processes within Earth systems and interactions across Earth Systems as they pertain to global self-regulation, secular variation, climate stability, development and sustainability of human societies. Prerequisite: Graduate standing.

**ENDY 6023. Seminar in Environmental Dynamics (Irregular). 3 Hours.**

Seminar examining specific contemporary topic of topics in Environmental Dynamics. Topics will change with each offering. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

**ENDY 602V. Current Topics Seminar (Irregular). 1-2 Hour.**

Various aspects of the environment will be explored through topic specific seminars. Subject matter will change each semester addressing current environmental issues and research. Seminars will be one or two hours credit. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

**ENDY 6033. Society and Environment (Sp). 3 Hours.**

This course examines the complex interrelationships between human societies and the natural environment. Drawing on diverse and interdisciplinary perspectives in archaeology, ethnography, history, geography, and palaeo-environmental studies, readings and discussion will explore the co-production of social and environmental systems over time.

This course is cross-listed with ANTH 6033.

**ENDY 689V. Special Problems in Environmental Dynamics (Sp, Su, Fa). 1-6 Hour.**

Independent study of a topic related to environmental dynamics under the guidance of an ENDY faculty member. May be repeated for up to 6 hours of degree credit.

**ENDY 6991. Environmental Dynamics Colloquium (Sp, Fa). 1 Hour.**

Weekly meetings for discussion of current research in environmental dynamics. Graduate students must register for colloquium each semester. Colloquium credit does not count towards minimum hours required for the doctorate. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

**ENDY 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Doctoral dissertation. Prerequisite: Graduate standing. May be repeated for degree credit.

## Environmental Science (ENSC) Courses

**ENSC 1001L. Environmental Science Laboratory (Sp, Fa). 1 Hour.**

Laboratory, field trip, and discussion sessions covering the concepts and information allowing students to critically evaluate environmental issues. Topics will include: laboratory safety, recycling, composting, geographic information systems, soil testing, water quality, hazardous wastes, waste disposal, wetlands, wastewater treatment, and sustainable food systems. Laboratory 2 hours/week. Corequisite: ENSC 1003.

This course is cross-listed with BIOL 1001L.

**ENSC 1001M. Honors Environmental Science Laboratory (Sp, Fa). 1 Hour.**

Laboratory, field trip, and discussion sessions covering the concepts and information allowing students to critically evaluate environmental issues. Topics will include: laboratory safety, recycling, composting, geographic information systems, soil testing, water quality, hazardous wastes, waste disposal, wetlands, wastewater treatment, and sustainable food systems. Laboratory 2 hours/week. Corequisite: ENSC 1003.

This course is cross-listed with ENSC 1001L, BIOL 1001L.

**ENSC 1003. Environmental Science (Sp, Fa). 3 Hours.**

Series of lectures and discussions introducing the topic of environmental science including factors related to water, soil, and air quality. If taking course for University core Natural Science credit, ENSC 1001L is a co-requisite. Corequisite: ENSC 1001L.

This course is cross-listed with BIOL 1003.

**ENSC 1003H. Honors Environmental Science (Sp, Fa). 3 Hours.**

Series of lectures and discussions introducing the topic of environmental science including factors related to water, soil, and air quality. If taking course for University core Natural Science credit, ENSC 1001L is a co-requisite. Corequisite: ENSC 1001L.

This course is cross-listed with ENSC 1003, BIOL 1003.

**ENSC 1833. Soils and Civilization (Sp). 3 Hours.**

Humankind's use of and dependence on soil from the Neolithic Revolution to the present day. The composition and basic properties of soils. The importance of soils as components of ecosystems, and ecosystem services provided by soils. The nature and causes of soil degradation. The need for conservation of soils. Soil as a key factor in sustaining life on Earth.

**ENSC 3003. Introduction to Water Science (Sp). 3 Hours.**

Properties, occurrence, and description of the types, functions, quality and quantity, potential contaminants, uses, and guiding policies and regulations of the various water resources in the environment. Prerequisite: MATH 1203 AND (ENSC 1003 OR CHEM 1053 (or higher) OR GEOS 1113 (or higher) OR BIOL 1543).

**ENSC 3103. Plants and Environmental Restoration (Fa). 3 Hours.**

Selection, establishment, and use of plants to promote soil stabilization, water quality, and wildlife habitat. Principles and practices of managing plants for soil remediation, nutrient and sediment trapping, and restoration of plant communities. Prerequisite: CSES 1203 or HORT 2003 or BIOL 1613.

**ENSC 3103H. Honors Plants and Environmental Restoration (Fa). 3 Hours.**

Selection, establishment, and use of plants to promote soil stabilization, water quality, and wildlife habitat. Principles and practices of managing plants for soil remediation, nutrient and sediment trapping, and restoration of plant communities. Prerequisite: CSES 1203 or HORT 2003 or BIOL 1613 and honors standing. This course is equivalent to ENSC 3103.

**ENSC 3221L. Ecosystems Assessment Laboratory (Even years, Fa). 1 Hour.**

The purpose of this laboratory is to complement concepts learned in lecture by carrying out experiments that familiarize students with methods used in soil and aquatic ecology. Students will collect samples, analyze and interpret data obtained from soil and water samples. Lab will meet once per week for 3 hours. Corequisite: ENSC 3223.

**ENSC 3223. Ecosystems Assessment (Even years, Fa). 3 Hours.**

Application of basic ecological principles to gain an appreciation for ecosystem assessment and management. Lecture 3 hours per week. Prerequisite: BIOL 1543.

**ENSC 3263. Soil and Water Conservation (Fa). 3 Hours.**

Effect of land use on water quality. Major sources of agricultural nonpoint pollutants. Best management practices used to minimize water quality impacts. Prerequisite: CSES 2203.

**ENSC 3413. Principles of Environmental Economics (Sp). 3 Hours.**

An introductory, issues-oriented course in the economics of the environment. What is involved in society making decisions about environmental quality will be studied. Environmental issues important to the State of Arkansas and the United States will be emphasized. Prerequisite: AGECE 1103 or ECON 2023. This course is cross-listed with AGECE 3413.

**ENSC 3603. GIS for Environmental Science (Odd Years, Sp). 3 Hours.**

Provide instruction on the uses of GIS techniques in solving practical environmental and agricultural land use problems. Areas include: 1) an introduction to spatial variability in soils with an emphasis on the application of GIS techniques to map and understand spatial parameters important to different land uses, and 2) development of individual experience in the use of GIS in solving environmental and agricultural problems using an oral and written term project. Prerequisite: CSES 2203.

**ENSC 3933. Environmental Ethics (Odd years, Sp). 3 Hours.**

The course addresses ethical questions about nature and the natural environment. Topics of discussion include anthropocentric and biocentric ethics, population control, obligations to future generations, animal rights, moral considerability, Leopold's land ethic, deep ecology, and ecofeminism. Lecture/discussions 3 hours per week. Prerequisite: ENSC 1003 or PHIL 2003 or PHIL 2103. This course is cross-listed with PHIL 3113.

**ENSC 400V. Special Problems (Irregular). 1-3 Hour.**

Work on special problems in environmental science or related fields. May be repeated for up to 8 hours of degree credit.

**ENSC 4021L. Water Quality Laboratory (Fa). 1 Hour.**

Field and laboratory experience in physical, chemical, and biological characteristics of natural waters (rain, river, lake, soil, ground, etc.). Laboratory experiments in water sampling, measurement of water quality parameters such as pH, alkalinity and acidity, redox, hardness, BOD, TSS, etc., and instrumentation. Prerequisite or Corequisite: ENSC 4023.

**ENSC 4023. Water Quality (Fa). 3 Hours.**

Physical, chemical, and biological characteristics of natural waters (rain, river, lake, soil, ground, etc.). Discussion of water quality parameters such as pH, alkalinity and acidity, redox, hardness, BOD, TSS, etc. Aquatic processes of pollutants and principles of modeling. Prerequisite: CHEM 1123 and CHEM 1121L and BIOL 1543 and BIOL1541L.

**ENSC 4034. Analysis of Environmental Contaminants (Even years, Sp). 4 Hours.**

Methods of analysis for inorganic and organic contaminants, radionuclides and microorganisms in soil and water. Quality assurance and quality control, sampling protocols, sample handling, instrumentation and data analysis. Lecture 2 hours and laboratory 4 hours per week. Corequisite: Lab component. Pre- or Corequisite: CHEM 2613 and CHEM 2611L or CHEM 3603 and 3601L.

**ENSC 404V. Special Topics (Irregular). 1-3 Hour.**

Studies of selected topics in environmental sciences not available in other courses. May be repeated for up to 12 hours of degree credit.

**ENSC 4263. Environmental Soil Science (Even years, Sp). 3 Hours.**

Study of the behavior of pesticides, toxic organic compounds, metals, nutrients, and pathogenic microorganisms in the soil/plant/water continuum. Lecture 3 hours per week. Pre- or Corequisite: PHYS 2013 and PHYS 2011L. Prerequisite: CSES 3214.

**ENSC 4401. Professional Certification Preparation (Sp). 1 Hour.**

This class is meant to reinforce concepts and skills already learned in other soil and environmental science and related courses and to provide the opportunity to prepare to take a national certification examination. If so chosen, students may pursue certification as soil or environmental science professionals. Prerequisite: Senior standing.

## Ethnomusicology (MUSY) Courses

**MUSY 2003. Music in World Cultures (Sp, Fa). 3 Hours.**

Provides an overview of music from around the world. Examines the role of music in different social and cultural contexts. A variety of indigenous, folk, religious, popular, and art music traditions will be explored, along with the people and cultures that create them.

**MUSY 2003H. Honors Music in World Cultures (Sp, Fa). 3 Hours.**

Provides an overview of music from around the world. Examines the role of music in different social and cultural contexts. A variety of indigenous, folk, religious, popular, and art music traditions will be explored, along with the people and cultures that create them.

This course is equivalent to MUSY 2003.



**MUSY 4113. Pro-Seminar: Ethnomusicology (Irregular). 3 Hours.**

An introduction to ethnomusicological study, with readings and discussion of seminal writings in the field and practical experience in ethnomusicological analysis and description. May be repeated for up to 6 hours of degree credit.

**MUSY 4113H. Honors Pro-Seminar: Honors Ethnomusicology (Irregular). 3 Hours.**

An introduction to ethnomusicological study, with readings and discussion of seminal writings in the field and practical experience in ethnomusicological analysis and description. May be repeated for up to 6 hours of degree credit. This course is equivalent to MUSY 4113.

**MUSY 4313H. Honors Special Topics in Asian and Middle Eastern Musics (Irregular). 3 Hours.**

Research seminars on selected topics in Asian and Middle Eastern Musics.

**MUSY 477V. Independent Research in Ethnomusicology (Irregular). 1-4 Hour.**

Subject matter not covered in other courses. In-depth study of specialized topics in contemporary, historical, or systematic ethnomusicology, and practical instruction in essay-structuring and presentation. May be repeated for up to 4 hours of degree credit.

**MUSY 477VH. Honors Independent Research in Ethnomusicology (Irregular). 1-4 Hour.**

Subject matter not covered in other courses. In depth study of specialized topics in contemporary, historical, or systematic ethnomusicology, and practical instruction in essay-structuring and presentation. May be repeated for up to 4 hours of degree credit.

This course is equivalent to MUSY 477V.

**MUSY 5113. Proseminar: Ethnomusicology (Irregular). 3 Hours.**

An introduction to ethnomusicological study, with readings and discussion of seminal writings in the field and practical experience in ethnomusicological analysis and description. May be repeated for up to 6 hours of degree credit.

This course is equivalent to MUSY 4113.

**MUSY 5313. Proseminar: Topics in Asian and Middle Eastern Musics (Irregular). 3 Hours.**

Research seminars on selected topics, such as The Performing Arts in East Asia; and Music and Ritual. May be repeated for up to 6 hours of degree credit.

**MUSY 5323. Seminar: Topics in Asian and Middle Eastern Poetry and Music (Irregular). 3 Hours.**

Reading seminars on selected topics, such as Poetry and Music in Persian, Arabic and Turkish Cultures of the Islamic World; and Poetry and Song in Early East Asia. May be repeated for up to 6 hours of degree credit.

**MUSY 5343. Seminar: Special Topics in Traditional Musics and Dance of Europe and the Americas (Irregular). 3 Hours.**

Topics including, but not limited to: European Folk Music; the musical or scholarly legacy of a particular figure.

**MUSY 5413. Proseminar: Cross-cultural Performance Practices (Irregular). 3 Hours.**

A survey of performance practices from historic western art music through modern non-western music. An introductory course with readings from seventeenth- and eighteenth-century performance treatises as well as a study of written and aural traditions of non-western music.

**MUSY 6333. Advanced Studies in Ethnomusicology (Irregular). 3 Hours.**

Advanced level studies, individually tailored and supervised, including Ethnomusicology (prerequisite MUSY 5113); The Music or Dance of a Selected Area (prerequisite at least one of MUSY 5313, MUSY 5323, MUSY 5343); Historic Performance Practices (prerequisite MUSY 5413); Historical East Asian Musicology (prerequisite MUSY 5313 or MUSY 5323); and Historical Central Asian or Middle- and Near-Eastern Musicology (prerequisite MUSY 5313 or MUSY 5323).

## European Studies (EUST) Courses

**EUST 2013. Introduction to Europe (Fa). 3 Hours.**

This course will cover the basic physical and human geography of Europe, emphasizing the factors that tie Europe together as well as the diversity of environmental and cultural conditions in the region. The class will focus particularly on those countries that are current members of the EU and on possible future entrants.

**EUST 399VH. Honors Thesis (Sp, Su, Fa). 1-6 Hour.**

Honors thesis course. Prerequisite: Junior standing. May be repeated for up to 6 hours of degree credit.

**EUST 4003. European Studies Colloquium (Sp). 3 Hours.**

An interdepartmental colloquium with an annual change in subject of investigation, required of students in the European studies program. Prerequisite: Sophomore standing. May be repeated for up to 6 hours of degree credit.

**EUST 4003H. Honors European Studies Colloquium (Sp). 3 Hours.**

Colloquium course. May be repeated for up to 3 hours of degree credit. This course is equivalent to EUST 4003.

**EUST 470V. Special Topics (Irregular). 1-6 Hour.**

An examination of pertinent issues in Europe. May be repeated for degree credit.

**EUST 470VH. Honors Special Topics (Irregular). 1-6 Hour.**

An examination of pertinent issues in Europe. May be repeated for degree credit. This course is equivalent to EUST 470V.

## Exercise Science (EXSC) Courses

**EXSC 2393. Prevention and Care of Athletic Injuries (Irregular). 3 Hours.**

Introduction to the prevention and care of athletic related injuries. Includes athletic injury recognition and management. Prerequisite: BIOL 2443 and BIOL 2441L.

**EXSC 2733. Introduction to Exercise Science (Sp, Fa). 3 Hours.**

This class will cover introductory topics for the Exercise Science students in preparation for entry into the profession. In addition to specific topics, students will prepare their resumes and make a formal presentation.

**EXSC 2733H. Honors Introduction to Exercise Science (Sp, Fa). 3 Hours.**

This class will cover introductory topics for the Exercise Science students in preparation for entry into the profession. In addition to specific topics, students will prepare their resumes and make a formal presentation. This course is equivalent to EXSC 2733.

**EXSC 3153. Exercise Physiology (Sp, Su, Fa). 3 Hours.**

Examination of effects of exercise on the physiology of the systems of the body. The exploration includes effects during, immediately after, and as long term results of work and exercise. Prerequisite: BIOL 2213 and BIOL 2211L.

**EXSC 3153H. Honors Exercise Physiology (Sp, Su, Fa). 3 Hours.**

Examination of effects of exercise on the physiology of the systems of the body. The exploration includes effects during, immediately after, and as long term results of work and exercise. Prerequisite: BIOL 2213 and BIOL 2211L. This course is equivalent to EXSC 3153.

**EXSC 3353. Mechanics of Human Movement (Sp, Su, Fa). 3 Hours.**

An introduction to basic analysis of motor skills. No credit given toward major in Zoology. Prerequisite: BIOL 2443 and BIOL 2441L, KINSBS major or by instructor consent.

**EXSC 3353H. Honors Mechanics of Human Movement (Sp, Su, Fa). 3 Hours.**

An introduction to basic analysis of motor skills. No credit given toward major in Zoology. Prerequisite: BIOL 2443 and BIOL 2441L, KINSBS major or by instructor consent.

This course is equivalent to EXSC 3353.

**EXSC 3423. Principles and Theories of Strength and Conditioning (Sp). 3 Hours.**

This course will provide the practical skills necessary to design strength and conditioning programs. Special emphasis is placed on the ability to evaluate exercise movements, prescribe appropriate exercise programs, administer tests, and support program prescription with a sound knowledge of anatomical and physiological adaptation to exercise. The course will include laboratory experiences integrated with didactic learning. The laboratory experiences will in teach students various skills such as how to set up and run speed, agility, and quickness drills, how to select and administer the appropriate tests for athletic performance, and how to evaluate Olympic lifting technique. Everyone must participate in the labs as subjects. Come to lab prepared to exercise. When students are finished with this course, they will be well prepared to take the CSCS exam given by the National Strength and Conditioning Association. Prerequisite: (BIOL 2443 and BIOL 2441L) and (BIOL 2213 and BIOL 2211L).

**EXSC 3423H. Honors Principles and Theories of Strength and Conditioning (Sp). 3 Hours.**

This course will provide the practical skills necessary to design strength and conditioning programs. Special emphasis is placed on the ability to evaluate exercise movements, prescribe appropriate exercise programs, administer tests, and support program prescription with a sound knowledge of anatomical and physiological adaptation to exercise. The course will include laboratory experiences integrated with didactic learning. The laboratory experiences will in teach students various skills such as how to set up and run speed, agility, and quickness drills, how to select and administer the appropriate tests for athletic performance, and how to evaluate Olympic lifting technique. Everyone must participate in the labs as subjects. Come to lab prepared to exercise. When students are finished with this course, they will be well prepared to take the CSCS exam given by the National Strength and Conditioning Association. Prerequisite: (BIOL 2443 and BIOL 2441L) and (BIOL 2213 and BIOL 2211L).

This course is equivalent to EXSC 3423.

**EXSC 3533. Laboratory Techniques (Sp, Su, Fa). 3 Hours.**

Practical experience in testing physical fitness in both the laboratory and non-laboratory settings. Pre- or Corequisite: EXSC 3153.

**EXSC 3533H. Honors Lab Techniques (Sp, Su, Fa). 3 Hours.**

Practical experience in testing physical fitness in both the laboratory and non-laboratory settings. Pre- or Corequisite: EXSC 3153 or EXSC 3153H.

This course is equivalent to EXSC 3533.

**EXSC 3723. Research Methods in Exercise Science (Sp). 3 Hours.**

This course will provide an overview of research methods for experimental research designs in an exercise science setting. The students will learn facets of research including: developing a research idea, getting funding for research, obtaining IRB/IACUC approval, data collection, data input, statistical analyses, and preparing manuscripts for publication. Designed for exercise science honor students in spring of their junior year or the summer prior to their senior year to prepare them for their honor's thesis.

This course is cross-listed with EXSC 3723H.

**EXSC 3723H. Honors Research Methods in Exercise Science (Sp). 3 Hours.**

This course will provide an overview of research methods for experimental research designs in an exercise science setting. The students will learn facets of research including: developing a research idea, getting funding for research, obtaining IRB/IACUC approval, data collection, data input, statistical analyses, and preparing manuscripts for publication. Designed for exercise science honor students in spring of their junior year of the summer prior to their senior year to prepare them for their honor's thesis. Prerequisite: Honors standing.

This course is cross-listed with EXSC 3723.

**EXSC 405V. Independent Study (Sp, Su, Fa). 1-3 Hour.**

Provides students an opportunity to pursue special study of research problems. May be repeated for up to 12 hours of degree credit.

**EXSC 405VH. Honors Independent Study (Sp, Su, Fa). 1-3 Hour.**

Provides students an opportunity to pursue special study of research problems. Prerequisite: Instructor consent. May be repeated for up to 12 hours of degree credit.

**EXSC 4323. Exercise Prescription (Sp, Su, Fa). 3 Hours.**

This course is designed to provide knowledge and application of sound exercise prescription principles and design of exercise programs in cardiorespiratory fitness, muscular fitness, body composition, flexibility, and balance. Prerequisite: EXSC 3153, EXSC 3353 and EXSC 3533.

**EXSC 4323H. Honors Exercise Prescription (Sp, Su, Fa). 3 Hours.**

This course is designed to provide knowledge and application of sound exercise prescription principles and design of exercise programs in cardiorespiratory fitness, muscular fitness, body composition, flexibility, and balance. Prerequisite: EXSC 3153, EXSC 3353 and EXSC 3533.

This course is equivalent to EXSC 4323.

**EXSC 4353. Advanced Mechanics of Human Movement (Irregular). 3 Hours.**

Students will build upon their foundation in qualitative biomechanics to quantitatively analyze human movement. Biomechanics of the musculoskeletal system will be covered in the first half of the course, and fundamental laws and principles of mechanics will be covered in the second course half of the course. Examples will be provided throughout the course to demonstrate how biomechanics can be used to enhance and maintain human health, fitness, and performance. Prerequisite: EXSC 3353 and PHYS 2013.

This course is cross-listed with EXSC 4353H.

**EXSC 4353H. Honors Advanced Mechanics of Human Movement (Irregular). 3 Hours.**

Students will build upon their foundation in qualitative biomechanics to quantitatively analyze human movement. Biomechanics of the musculoskeletal system will be covered in the first half of the course, and fundamental laws and principles of mechanics will be covered in the second course half of the course. Examples will be provided throughout the course to demonstrate how biomechanics can be used to enhance and maintain human health, fitness, and performance. Prerequisite: EXSC 3353 and PHYS 2013.

**EXSC 4643. Psychology of Sports Injury and Rehabilitation (Irregular). 3 Hours.**

The purpose of this course is to explore and discuss factors related to the psychological aspects of athletic injuries. These factors include the sociocultural, mental, emotional, and physical dimensions of injury rehabilitation.

**EXSC 4773. Performance and Drugs (Sp, Fa). 3 Hours.**

The pharmacological and physiological effects of ergogenic aids upon the athlete and performance coupled with the ethical and moralistic viewpoints of drug taking. Practical laboratory experiences are provided with pertinent statistical surveys of athletes; their drug taking habits and relevant psychological impact on performance. Prerequisite: EXSC 3153.

**EXSC 4773H. Honors Performance and Drugs (Sp, Fa). 3 Hours.**

The pharmacological and physiological effects of ergogenic aids upon the athlete and performance coupled with the ethical and moralistic viewpoints of drug taking. Practical laboratory experiences are provided with pertinent statistical surveys of athletes; their drug taking habits and relevant psychological impact on performance. Prerequisite: EXSC 3153.

This course is equivalent to EXSC 4773.

**EXSC 4783. Sport and Exercise Psychology (Fa). 3 Hours.**

This course examines how individuals behave in physical activity, exercise, and sport settings. Psychological antecedents and consequences of primary and secondary involvement in exercise, sport, and related physical activities will be introduced.

**EXSC 4783H. Honors Sport and Exercise Psychology (Fa). 3 Hours.**

This course examines how individuals behave in physical activity, exercise, and sport settings. Psychological antecedents and consequences of primary and secondary involvement in exercise, sport, and related physical activities will be introduced.

This course is equivalent to EXSC 4783.

**EXSC 4833. Exercise Applications for Special Populations (Sp, Su, Fa). 3 Hours.**

The study of the effects of exercise, exercise training, and other stressors in special groups. A detailed study of the biomechanical and physiological effects of exercise on the elderly, the diabetic, the post-coronary, and the individual with functional limitations. Pre- or Corequisite: EXSC 3533. Prerequisite: EXSC 3353 and EXSC 3153.

**EXSC 4833H. Honors Exercise Applications for Special Populations (Sp, Su, Fa). 3 Hours.**

The study of the effects of exercise, exercise training, and other stressors in special groups. A detailed study of the biomechanical and physiological effects of exercise on the elderly, the diabetic, the post-coronary, and the individual with functional limitations. Pre- or Corequisite: EXSC 3533 or EXSC 3533H. Prerequisite: EXSC 3353 or EXSC 3353H and EXSC 3153 or EXSC 3153H.

This course is equivalent to EXSC 4833.

**EXSC 4903. Internship in Exercise Science (Sp, Su, Fa). 3 Hours.**

Provides opportunities for students in Exercise Science to gain experience in clinics, hospitals, fitness centers, athletic training facilities or related settings. Pre- or Corequisite: EXSC 3533. Prerequisite: EXSC 3353 and EXSC 3153.

**EXSC 5023. Advanced Teaching in Exercise Science (Sp, Su, Fa). 3 Hours.**

Examination and practical exposure to the principles and practices of undergraduate teaching in exercise science. Includes course planning, teaching techniques, assessment strategies, and supervised practice. May be repeated for up to 6 hours of degree credit.

**EXSC 5323. Biomechanics I (Fa). 3 Hours.**

Intended to serve as an introduction to biomechanics and focuses on scientific principles involved in understanding and analyzing human motion.

**EXSC 5333. Instrumentation in Biomechanics (Irregular). 3 Hours.**

The application of knowledge and skills necessary for data collection for sports analysis. Provides valuable information on instrumentation used specifically in biomechanics. Prerequisite: EXSC 5323.

**EXSC 5353. Exercise Psychology (Fa). 3 Hours.**

Exercise Psychology is a lecture and discussion format for students interested in learning about theoretical and research information related to exercise adherence.

**EXSC 5443. Seminar in Brain Injury and Behavior (Irregular). 3 Hours.**

The Brain Injury and Behavior Seminar will immerse you in specific topics pertaining to the study of human brain-behavior relationships. Emphasis will be placed on traumatic brain injury (TBI), including moderate-to-severe injuries, as well as mild TBI or concussion. The first half of the course will focus on research related to how individuals sustain and recover from TBI. The second half of the course will focus on sports-related concussion in youth, collegiate, and professional athletes, with an emphasis on how athletes sustain concussions, how concussions are assessed, treated, and managed, and how return-to-play decision are made. This course will introduce you to research in a variety of fields that include physiology, neurology, and neuropsychology through primary source material in the form of book chapters and journal articles.

**EXSC 5513. Physiology Exercise I (Fa). 3 Hours.**

A study of the foundation literature in exercise physiology. Emphasis is placed on the muscular, cardiovascular, and respiratory systems.

**EXSC 5523. Muscle Metabolism in Exercise (Sp). 3 Hours.**

A study of the metabolic changes that occur in muscle as a result of exercise, exercise training, and other stressors. Prerequisite: EXSC 5513 or equivalent.

**EXSC 5533. Cardiac Rehabilitation Program (Even years, Sp). 3 Hours.**

An examination of the concepts, design, and implementation of cardiac rehabilitation programs. Emphasis on exercise programs but reference to nutrition, psychology, and other lifestyle interventions.

**EXSC 5543. Cardiovascular Function in Exercise (Even years, Fa). 3 Hours.**

Study of the effects of exercise training and other stressors on the cardiovascular system. Detailed study of the components of the cardiovascular system and the responses and adaptations of those components to selected stimuli. Corequisite: EXSC 5513 or equivalent.

**EXSC 5593. Practicum in Laboratory Instrumentation (Su, Fa). 3 Hours.**

Practical experience in testing physical fitness utilizing laboratory equipment. Objective is to quantify physiological parameters, leading to the individualized exercise prescription.

**EXSC 5613. Physical Dimensions of Aging (Odd years, Sp). 3 Hours.**

This course will focus on the physiological changes with healthy aging, pathophysiology of age-related diseases, testing issues, exercise interventions, and the psychosocial aspects of aging. Prerequisite: EXSC 5513.

**EXSC 5643. Advanced Psychology of Sports Injury and Rehabilitation (Sp). 3 Hours.**

The purpose of this course is to explore and discuss factors related to the psychological aspects of athletic injuries. These factors include the sociocultural, mental, emotional, and physical dimensions of injury rehabilitation. Prerequisite: Students must be accepted into the Masters of Athletic Training graduate program.

**EXSC 5773. Performance and Drugs (Sp). 3 Hours.**

The pharmacological and physiological effects of ergogenic aids upon the athlete and performance coupled with the ethical and moralistic viewpoints of drug taking. Practical laboratory experiences are provided with pertinent statistical surveys of athletes; their drug taking habits and relevant psychological impact on performance.

**EXSC 6313. Muscle Physiology (Even years, Fa). 3 Hours.**

To expand the student's knowledge of the skeletal muscle form and function. Specifically, how muscle is formed to how it can adapt as a post-mitotic tissue. This course will focus on the morphological, physiological, cellular, and molecular factors that affect skeletal muscle form and function.

**EXSC 6323. Biomechanics II (Irregular). 3 Hours.**

Analysis of human movement with emphasis on sports skills by application of principles of anatomy, kinesiology, and cinematographical analysis. Prerequisite: EXSC 5323.

**EXSC 6343. Physiology of Exercise II (Irregular). 3 Hours.**

Detailed study of the body systems affected by exercise, the functions of these systems during exercise, the effects of age, sex, body type, and nutrition on capacity for exercise, the techniques of assessing work capacity, and a critical analysis of research literature in this area.

**EXSC 6443. Thermoregulation and Fluid Balance (Even years, Sp). 3 Hours.**

Comprehensive overview of human thermoregulatory responses to exercise in heat and cold.

## Extension Education (EXED) Courses

**EXED 4183. Management of Volunteer Programs (Irregular). 3 Hours.**

Recruiting, training, management, evaluation, and recognition of volunteers in agricultural-related agencies, non-profit organizations, community groups, and advisory committees. Prerequisite: Junior standing.

**EXED 475V. Internship in Extension (Sp, Su, Fa). 3-6 Hour.**

A supervised practical work experience in Cooperative Extension which is designed to give the student an insight into the role of Extension employees and an opportunity to gain professional competence in this area. Prerequisite: Junior standing. May be repeated for up to 6 hours of degree credit.

**EXED 5113. Program Development and Evaluation (Irregular). 3 Hours.**

Principles and proceedings of program development process including planning, designing, implementing, and evaluating of extension education programs. An emphasis on the framework for applying adult and non-formal education principles to the change process.

**EXED 5183. Management of Volunteer Programs (Irregular). 3 Hours.**

(Formerly EXED 4183.) Recruiting, training, management, evaluation, and recognition of volunteers in agricultural-related agencies, non-profit organizations, community groups, and advisory committees. Graduate degree credit will not be given for both EXED 4183 and EXED 5183.

## Finance (FINN) Courses

**FINN 1003. Your Money and Credit (Sp, Su, Fa). 3 Hours.**

Introduction to personal finance. Topics include building wealth, do's and don'ts of credit, car and home ownership. Lectures on theory and concepts; 'learning from the masters' video on best practices; financial simulations and case exercises.

**FINN 3003. Personal Financial Management (Sp, Fa). 3 Hours.**

Topics covered include budgeting, financial planning, managing credit, taxes, insurance, investments, and retirement planning.

**FINN 3013. Financial Analysis (Sp, Su, Fa). 3 Hours.**

Focuses on how information contained in financial statements can be used in financial decision-making; in particular, to assess financial performance, evaluate credit and default risk, forecast future funds needs, weigh the risk-reward of debt vs. equity financing, and develop estimates of intrinsic value using relative valuation metrics and discounted cash flow methods. Prerequisite: WCOB 2043 or FINN 3043.

**FINN 3043. Principles of Finance (Sp, Su, Fa). 3 Hours.**

Introduction to the financial system and financial management. Addresses the role and functions of financial intermediaries and markets for fixed income and equity securities; understand how interest rates are determined and assets valued; learn how firms effectively manage financial resources and create value through investment and financing decisions. Prerequisite: ACCT 2013, ACCT 2023 or WCOB 2053, ECON 2013, ECON 2023, and WCOB 1033 with a grade of C or better.

**FINN 3053. Financial Markets and Institutions (Sp, Su, Fa). 3 Hours.**

Role and operations of financial markets and institutions in the economy. Supply of, demand for, funds, interest rates and flow of funds analysis. Financial policies, practices of bank and nonbank financial institutions. Prerequisite: (ECON 2013 and ECON 2023) or ECON 2143.

**FINN 3063. Investments (Sp, Su, Fa). 3 Hours.**

Introduction to basic investment concepts including: risk-return and mean-variance efficient frontiers, diversification and the pricing of risk, security valuation. Corequisite: FINN 3013. Prerequisite: WCOB 2043 or FINN 3043.

**FINN 3103. Financial Modeling (Sp, Su, Fa). 3 Hours.**

Develop strong computer skills in financial analysis by integrating conceptual material with spreadsheet-based numerical solution and simulation techniques. Prerequisite: WCOB 2043 or FINN 3043.

**FINN 3133. Commercial Banking (Sp, Fa). 3 Hours.**

Commercial bank administration, management; loans; bond portfolios; credit analysis; public relations; analysis and interpretations of Federal Reserve regulations and publications. Prerequisite: WCOB 2043 or FINN 3043.

**FINN 3163. Fixed Income Securities I (Fa). 3 Hours.**

The markets and institutional settings of fixed income securities; valuation and risk analysis of money market and capital market instruments; strategies and management of bond portfolios; taxable and tax-exempt securities; U.S. and non-U.S. fixed income securities; term structure of interest rate; and interest rate derivatives as hedging tools. Corequisite: FINN 3103 and FINN 3063. Prerequisite: Departmental consent.

**FINN 3173. Fixed Income Securities II (Sp). 3 Hours.**

Continuation of FINN 4163. The markets and institutional settings of fixed income securities; valuation, and risk analysis of money market and capital market instruments; strategies and management of bond portfolios; taxable and tax-exempt securities; U.S. and non-U.S. fixed income securities; term structure of interest rate; and interest rate derivatives as hedging tools. Prerequisite: FINN 3163.

**FINN 3603. Corporate Finance (Sp, Su, Fa). 3 Hours.**

Develop analytical competencies in financial planning, cost of capital estimation, application of discounted cash flow approach to valuation and capital allocation, lease analysis, evaluation of merger and organizational restructuring strategies. Prerequisite: WCOB 2043 or FINN 3043 and FINN 3013.

**FINN 3623. Risk Management (Sp, Fa). 3 Hours.**

A survey of the extent and types of risk in business; ways of dealing with business risk; use of security and commodity exchanges; survey of insurance for risk bearing purposes.

**FINN 3703. International Finance (Sp, Su, Fa). 3 Hours.**

Introduction to international financial markets, exchange rates and exchange rate determination, balance of trade measures, and vehicles for foreign trade financing.

**FINN 3933. Real Estate Principles (Sp, Fa). 3 Hours.**

Comprehensive, covering economics of real estate, real estate value, real estate finance, rights in real property and their transfer, public programs, policies relating to real property.

**FINN 4003H. Honors Finance Colloquium (Fa). 3 Hours.**

Explores important concepts, significant events and/or new developments in the field of Finance. Prerequisite: Senior standing.

**FINN 4013. Seminar in Personal Financial Planning (Sp). 3 Hours.**

Explores financial planning function, including contact, data acquisition, plan development and implementation; covers all areas of personal financial planning including investments, insurance, taxes, and estate planning; addresses planning techniques and financial planning ethical issues; emphasis on case studies. Pre- or Corequisite: FINN 4733. Prerequisite: FINN 3003, FINN 3063, FINN 3623, and ACCT 3843.

**FINN 410V. Special Topics in Finance (Irregular). 1-6 Hour.**

Explore current events, new developments and special topics in Finance not covered in other courses. Prerequisite: FINN 3013. May be repeated for up to 6 hours of degree credit.

**FINN 4133. Advanced Investments (Sp, Fa). 3 Hours.**

Sound training in the principles of security analysis and portfolio management and certain advanced techniques of financial management. Modern portfolio theory and its application to portfolio management practices will be emphasized. Prerequisite: FINN 3063.

**FINN 4143. Portfolio Management I (Fa). 3 Hours.**

This course applies modern investment theory to the practical management of the Rebsament Trust. Students prepare a statement of investment objectives, recommend an asset allocation strategy based on a quantitative analysis of asset class returns, and select securities using fundamental analysis. Classes are organized as management meetings and visits to investment firms are an important part of the class. Application, interview and instructor approval are required. Corequisite: FINN 3063 and ACCT 3723. Prerequisite: Departmental consent.

**FINN 4153. Portfolio Management II (Sp). 3 Hours.**

This course is a continuation of FINN 4143. Topics covered include technical analysis, dynamic asset allocation and derivative strategies. Visits to major investments firms and organized exchanges in New York City or other locations are generally planned. Selection is by invitation. Prerequisite: FINN 4143 and by invitation only.

**FINN 4173. Energy Finance (Sp, Fa). 3 Hours.**

This course is as a comprehensive introduction to the field of Energy Finance, i.e., the application of Finance principles to energy, energy-service, and related industries. Topics covered include: (1) physical fossil fuel markets; (2) physical electricity markets; (3) financially traded energy products; and (4) credit, counterparty, and country risk. Pre- or Corequisite: ACCT 3723. Prerequisite: FINN 3013 and FINN 3043.

This course is cross-listed with FINN 5173.

**FINN 4233. Advanced Corporate Finance (Irregular). 3 Hours.**

Addresses complex and multifaceted issues and problems in financial decision-making. Prerequisite: FINN 3603.

**FINN 4313. Advanced Commercial Banking (Sp). 3 Hours.**

Problems and cases emphasizing application of analytical tools and techniques in decision making process. Determination of operating policies regarding loans, investments, liquidity, capital; efficient performance of lending, investment function; profit planning, analysis; strategies of growth, competition; and evaluation of bank performance. Prerequisite: FINN 3133.

**FINN 4413. Real Estate Appraisal (Fa). 3 Hours.**

Valuation theories applied to real estate. Characteristics which affect value are studied and valuation methodologies are learned and performed by the students. Focus is on residential real estate but all types of real estate are addressed. Students prepare in actual residential appraisal report. Prerequisite: FINN 3933.

**FINN 4433. Real Estate Finance and Investment (Sp). 3 Hours.**

Consideration of professional aspects of the real estate field. Emphasis is placed upon finance techniques and investment analysis. The focus is on commercial real estate. Brokerage, property management, appraisal, property development and current problems are also addressed. Students prepare a feasibility study on a commercial development project. Prerequisite: FINN 3933.

**FINN 450V. Independent Study (Irregular). 1-3 Hour.**

Permits students on an individual basis to explore selected topics in finance, with the consent of instructor.

**FINN 4733. Life and Health Insurance I (Fa). 3 Hours.**

Basic principles, functions, uses of life and health insurance; types of policy contracts; calculation of premiums, reserves; organizations, management, supervision, of companies.

**FINN 4833. Property and Casualty Insurance I (Sp). 3 Hours.**

Forms and functions of fire, marine, inland marine, automobile title, miscellaneous types insurance and bonds for business, personal use.

**FINN 5113. Corporate Financial Management (Sp). 3 Hours.**

Financial analysis, planning and control; decision making and modeling for financial managers; and financial policies for management.

**FINN 5173. Energy Finance and Risk Management (Fa). 3 Hours.**

This course provides an advanced introduction to energy finance, defined as the application of finance principles to energy, energy service, and related industries, concerning all aspects of the energy value chain. Topics include: (1) physical fossil fuel markets; (2) physical electricity markets; (3) financially traded energy products; and (4) credit, counterpart, country, and enterprise risk. It also introduces students to business valuation and investment banking applications in the energy industry vertical. Prerequisite: FINN 5113 or FINN 5223.

This course is cross-listed with FINN 4173.

**FINN 5223. Financial Markets & Valuation (Sp). 3 Hours.**

Analysis of financial information by capital markets in the determination of security values with specific applications to retail and logistics companies. This course views these and other companies from the point of view of the capital markets. May be repeated for degree credit.

**FINN 5303. Advanced Corporate Financial Management (Irregular). 3 Hours.**

Focus on financial policy issues using real situational cases. Topics include cost of capital, capital budgeting and long-term planning, value-based management, real options, as well as project financing and valuation. Prerequisite: FINN 5223.

**FINN 5333. Investment Theory and Management (Fa). 3 Hours.**

Integration of theory, practice of investments with solution of individual and institutional portfolio management problems; Institute of Chartered Financial Analysts' Problems; variable annuity in estate planning. Prerequisite: FINN 5223.

**FINN 541V. Shollmier Investment Project (Sp, Fa). 1-3 Hour.**

Provide students with the opportunity to design and apply complex investment strategies used in institutional portfolio management on the Shollmier MBA Fund that can involve fixed income and equity securities as well as derivatives. Students will use top down asset allocation models, bottom up security selection, and hedge fund strategies. Prerequisite: FINN 5223 and FINN 5333. May be repeated for up to 9 hours of degree credit.

**FINN 5443. Retail Finance (Sp). 3 Hours.**

The financial success of retail product and service offerings depends on a clear understanding of the socio-economic as well as demographic and environmental factors that drive the changing patterns of consumption. This course introduces the fundamentals and use of consumer and trade area analysis tools, specifically geographic information systems (GIS) and psychographic market analysis, to make informed financial decisions. Extensive case studies are utilized throughout the course to learn concepts and best practices. Prerequisite: FINN 5223.

**FINN 5703. Multinational Business Finance (Irregular). 3 Hours.**

Problems pertinent to managers of firms in multinational business environments, including international institutions, risks, investments and capital budgeting.

**FINN 6043. Finance Theory (Irregular). 3 Hours.**

Provides a conceptual understanding of key theoretical developments in the field of financial economics, including firm decisions under risk within a world of uncertainty.

**FINN 6133. Seminar in Investment Theory (Sp). 3 Hours.**

Study advanced literature in field investments, with special reference to theory of random walks, stock valuation models, portfolio management.

**FINN 6233. Seminar in Financial Management (Irregular). 3 Hours.**

Financial management of firm with emphasis on financial theory or firm, quantitative methods used in financial analysis, planning.

**FINN 6333. Empirical Research in Finance (Irregular). 3 Hours.**

A study of recent empirically based research in finance.

**FINN 636V. Special Problems in Finance (Irregular). 1-6 Hour.**

Case studies in investments, corporation finance, money and banking, monetary theory, international finance, public finance. By arrangement. May be repeated for up to 6 hours of degree credit.

**FINN 6733. Seminar in Financial Markets and Institutions (Irregular). 3 Hours.**

Recent developments in the literature of financial markets and institutions. Participants will be involved in the extensive study of existing theories and empirical tests of the theories.

**FINN 683V. Contemporary Issues in Doctoral Colloquium (Sp, Su, Fa). 1-3 Hour.**

To explore and evaluate contemporary research issues in finance. Course content to reflect the most recent developments in theory and empirical research methodologies. Prerequisite: Doctoral student status and instructor consent. May be repeated for up to 18 hours of degree credit.

**FINN 700V. Doctoral Dissertation (Sp, Fa). 1-18 Hour.**

Doctoral Dissertation. Prerequisite: Candidacy. May be repeated for degree credit.

## Food Science (FDSC)

### Courses

**FDSC 1011. Exploring Topics in Food Science (Fa). 1 Hour.**

Introduces the depth and scope of Food Science as a profession. This course emphasizes the importance of science in processing and preservation of food and discusses current topics and issues. Practical information on food processing, composition, additives, labeling, environmental issues, regulations, safety, sensory analysis, and health benefits will be provided. Curriculum offerings in Food Science will be related to job responsibilities as a Food Scientist. Lecture/discussions, 2 hours per week for 8 weeks.

**FDSC 1103. Introduction to Food Science (Sp). 3 Hours.**

This course is designed to provide students with a general application and understanding of current issues associated with food products and food ingredients. Discussions will focus on controversial subjects involving food products, food additives, food safety and preservation techniques based on scientific principles and popular belief. Lecture/discussions/demonstrations, 3 hours per week.

**FDSC 2111. Math Elements for Food Science and Technology (Sp). 1 Hour.**

Basic data interpretation and analysis, problem interpretation and equation formulation, manipulation of algebraic functions representing applications in food science and technology, predictive models and curve fittings to determine model constants applied in food science and processing. Pre- or Corequisite: MATH 2043 or MATH 2554.

**FDSC 2401. Uncorked: Vines to Wines (Fa). 1 Hour.**

This introductory course is designed to provide students with an understanding of the basic concepts of growing grapes and winemaking, including history, grape growing, cultivars, chemistry, wine microorganisms, fermentation, winery operations, wine marketing, and the sensory and appreciation of wine. Coursework is expected to integrate lecture and guest presenters with supplement reading assignments. This course will not include wine tasting, therefore there are no age restrictions for enrollment.

**FDSC 2401H. Honors Uncorked: Vines to Wines (Fa). 1 Hour.**

This introductory course is designed to provide students with an understanding of the basic concepts of growing grapes and winemaking, including history, grape growing, cultivars, chemistry, wine microorganisms, fermentation, winery operations, wine marketing, and the sensory and appreciation of wine. Coursework is expected to integrate lecture and guest presenters with supplement reading assignments. This course will not include wine tasting, therefore there are no age restrictions for enrollment. Prerequisite: Honors standing.

**FDSC 2503. Food Safety and Sanitation (Sp, Fa). 3 Hours.**

Principles of sanitation, cleaners and sanitizers, sanitary equipment and plant design, and microbial growth and control in food processing operations. Lecture/discussion/demonstrations, 3 hours per week. Students may not receive credit for both FDSC 2503 and FDSC 2523.

**FDSC 2523. Sanitation and Safety in Food Processing Operations (Irregular). 3 Hours.**

Topics to be covered include understanding and control of microbial, chemical, and physical food hazards as well as emerging food safety issues. Course will include a study of cleaners and sanitizers and sanitary equipment and plant designs. Bioterrorism and food safety will also be discussed. Students may not receive credit for both FDSC 2523 and FDSC 2503. Web-based course.

**FDSC 2603. Science in the Kitchen (Fa). 3 Hours.**

In recent years science has found its way into the kitchen and cooking into laboratories and food processing plants. This course is designed to integrate science and cooking to help students appreciate the chemical and physical properties of foods and understand how the processes used when handling, preparing, and storing foods affect these properties.

**FDSC 2701. Food for Health (Sp). 1 Hour.**

The course is designed for students interested in how foods affect one's health. This course provides students with a background of functional food that will enable them to understand, discuss, and evaluate functionality of food in relation to health. This class is designed to appeal to students studying food science, nutrition, biology, chemistry, nursing, and health and human performance.

**FDSC 3103. Principles of Food Processing (Fa). 3 Hours.**

The course is designed as an overview of the unit; food processing operations common to all types of food processing plants. Examples will be drawn from international food processing operations processing fruits and vegetables, poultry and meats, and oil seeds and cereal grains. Emphasis on oral communication and critical thinking skills. Corequisite: Lab component. Prerequisite: CHEM 1123 and CHEM 1121L and (MATH 2043 or MATH 2554).

**FDSC 3202. Introduction to Food Law (Sp). 2 Hours.**

Discussion of government laws and regulations affecting the manufacture of food. Emphasis is on federal regulations relating to food safety, labeling, and the FDA. Discussion relates to practical use of food law. Lecture 2 hours per week.

**FDSC 3923H. Honors Molecular Gastronomy (Irregular). 3 Hours.**

Lecture, demonstration, and hands-on exercises will be used to explain and demonstrate selected principles of chemistry by utilizing a modern culinary approach. Hands-on exercises will provide students with experience in applying the knowledge learned from the class to explicate fundamental principles in chemistry. Demonstrations and hands-on exercises will take place during scheduled lecture time. High school physics and chemistry will be useful in this course.

**FDSC 400V. Special Problems (Sp, Su, Fa). 1-4 Hour.**

Investigation of assigned problems in food science. Prerequisite: Junior standing.

**FDSC 4111L. Food Analysis Lab (Sp). 1 Hour.**

Laboratory exercises providing students with experience of analytical techniques and instrumentation used in food analysis. Laboratory 3 hours per week. Corequisite: FDSC 4113. Prerequisite: FDSC 4304 and CHEM 1123 and CHEM 1121L and CHEM 2613 and CHEM 2611L or (CHEM 3603 and CHEM 3601L).

**FDSC 4113. Food Analysis (Sp). 3 Hours.**

Methods of analysis, instrumentation, and laboratory techniques for measuring the chemical composition of raw and value-added products. Lecture 3 hours.

Corequisite: FDSC 4111L. Prerequisite: FDSC 4304 and CHEM 1123 and CHEM 1121L and CHEM 2613 and CHEM 2611L or (CHEM 3603 and CHEM 3601L).

**FDSC 4121L. Food Microbiology Lab (Fa). 1 Hour.**

A hands-on laboratory course designed to teach students microbiological techniques and certain enumeration and plating techniques of specific food spoilage and pathogenic bacteria. Pre- or Corequisite: FDSC 4122.

**FDSC 4122. Food Microbiology (Fa). 2 Hours.**

The study of food microbiology including classification/ taxonomy, contamination, preservation and spoilage of different kinds of foods, pathogenic microorganisms, food poisoning, sanitation, control and inspection and beneficial uses of microorganisms. Prerequisite: BIOL 2013 and 2011L or BIOL 2533.

This course is cross-listed with BIOL 4122.

**FDSC 4304. Food Chemistry (Fa). 4 Hours.**

Water, carbohydrates, lipids, proteins, vitamins, and minerals in foods; biochemical and functional properties, enzymes, food additives (emulsifiers, pigments, colors, flavors, preservatives, and sweeteners) and texture as related to properties in food systems and during processing. Lecture 3 hours, laboratory 3 hours per week.

Corequisite: Lab component. Prerequisite: CHEM 1123 and CHEM 1121L and CHEM 2613 and CHEM 2611L or (CHEM 3603 and CHEM 3601L).

**FDSC 431V. Internship in Food Science (Sp, Su, Fa). 1-4 Hour.**

The Food Science Internship is a supervised practical work experience with a food industry, research program or governmental agency to gain professional experience and insight into career opportunities. Prerequisite: Junior standing and consent. May be repeated for up to 4 hours of degree credit.

**FDSC 4333. Molecular Biology Techniques Applied to Nutrition and Food Science (Fa). 3 Hours.**

This course will provide advanced knowledge on current molecular biology techniques and how they can be used in nutrition and food science. A specific emphasis will be given on learning how to understand and interpret results generated through these methods. Therefore, the course is of interest to a wider audience, as such analytic skills are valuable for a diverse array of disciplines. Methods covered will include DNA and RNA-based techniques (PCR, microarrays, sequencing, genomics and metagenomics), protein-based techniques (blots, proteomics) and other molecules-based techniques (metabolomics, immunoblots). Prerequisite: Junior or senior standing.

**FDSC 4413. Sensory Evaluation of Food (Fa). 3 Hours.**

Principles and procedures for sensory evaluation of food. Appropriate uses of specific tests are discussed, along with physiological, psychological, and environmental factors affecting sensory verdicts. Lecture 2 hours, laboratory 2 hours per week. Corequisite: Lab component. Prerequisite: STAT 2303 or WCOB 1033 or AGST 4023 or STAT 2023 or PSYC 2013.

**FDSC 4713. Product Innovation for the Food Scientist (Sp). 3 Hours.**

This is a capstone course integrating knowledge developed in Food Science to the development of new food products. This course will take an integrated multidisciplinary approach to developing innovative food products and will provide learning experiences in new product development and Research & Development. Topics include product formulation, ingredient interactions, sensory analysis, packaging, labeling, food safety and food law. Corequisite: Lab component. Pre- or Corequisite: FDSC 4113 and FDSC 4111L. Prerequisite: Senior standing, FDSC 4304, FDSC 3103, and FDSC 4413.

**FDSC 472V. Special Topics in Food Science (Irregular). 1-4 Hour.**

Discussion focused on selected topics of particular fields of raw product physiology, food processing, chemistry, physiology, microbiology, evaluation, sensory analysis, and preservation. May be repeated for up to 4 hours of degree credit.

**FDSC 4754. Engineering Principles of Food Processing (Even years, Sp). 4 Hours.**

Basic mechanics of refrigeration, temperature controls, materials handling and mechanical problems as applied to foods and food processing. Lecture 3 hours, laboratory 3 hours per week. Corequisite: Lab component. Prerequisite: MATH 1213, PHYS 2013, and PHYS 2011L.

**FDSC 4823. Principles of Food Microbiology (Irregular). 3 Hours.**

This web-based course is a study of the fundamentals of food microbiology to include its history, classifications, spores and their importance, and the most common and serious pathogenic food microorganisms. Fermentation, spoilage microorganisms and control methodology are also discussed.

**FDSC 5001. Seminar (Sp, Fa). 1 Hour.**

Presentation and discussion of graduate student research. Prerequisite: Graduate standing.

**FDSC 509V. Special Problems Research (Sp, Su, Fa). 1-4 Hour.**

Original investigation on assigned problems in food science. Prerequisite: Graduate standing.

**FDSC 5111L. Food Analysis Lab (Sp). 1 Hour.**

(Formerly FDSC 4111L.) Laboratory exercises providing students with experience of analytical techniques and instrumentation used in food analysis. Laboratory 3 hours per week. Graduate degree credit will not be given for both FDSC 4111L and FDSC 5111L. Corequisite: FDSC 4113 or FDSC 5113 (formerly FDSC 4113). Prerequisite: FDSC 4304 or FDSC 5304 (formerly FDSC 4304) and CHEM 1123 and CHEM 1121L and CHEM 2613 and CHEM 2611L or (CHEM 3603 and CHEM 3601L).

**FDSC 5113. Food Analysis (Sp). 3 Hours.**

(Formerly FDSC 4113.) Methods of analysis, instrumentation, and laboratory techniques for measuring the chemical composition of raw and value-added products. Lecture 3 hours. Graduate degree credit will not be given for both FDSC 4113 and FDSC 5113. Corequisite: FDSC 4111L or FDSC 5111L (formerly FDSC 4111L). Prerequisite: FDSC 4304 or FDSC 5304 (formerly FDSC 4304) and CHEM 1123 and CHEM 1121L and CHEM 2613 and CHEM 2611L or (CHEM 3603 and CHEM 3601L).

**FDSC 5121L. Food Microbiology Lab (Fa). 1 Hour.**

(Formerly FDSC 4121L.) A hands-on laboratory course designed to teach students microbiological techniques and certain enumeration and plating techniques of specific food spoilage and pathogenic bacteria. Graduate degree credit will not be given for both FDSC 4121L and FDSC 5121L. Pre- or Corequisite: FDSC 4122 or FDSC 5122 (formerly FDSC 4122).

**FDSC 5122. Food Microbiology (Fa). 2 Hours.**

(Formerly FDSC 4122.) The study of food microbiology including classification/ taxonomy, contamination, preservation and spoilage of different kinds of foods, pathogenic microorganisms, food poisoning, sanitation, control and inspection and beneficial uses of microorganisms. Graduate degree credit will not be given for both FDSC 4122 and FDSC 5122. Prerequisite: BIOL 2013 and 2011L or BIOL 2533.

**FDSC 5223. Food Biosecurity (Irregular). 3 Hours.**

This course is the study of the security of agricultural products and the protection of our food supply from intentional and accidental, domestic and international contamination. Prerequisite: Graduate standing.

**FDSC 5304. Food Chemistry (Fa). 4 Hours.**

(Formerly FDSC 4304.) Water, carbohydrates, lipids, proteins, vitamins, and minerals in foods; biochemical and functional properties, enzymes, food additives (emulsifiers, pigments, colors, flavors, preservatives, and sweeteners) and texture as related to properties in food systems and during processing. Lecture 3 hours, laboratory 3 hours per week. Graduate degree credit will not be given for both FDSC 4304 and FDSC 5304. Corequisite: Lab component. Prerequisite: CHEM 1123 and CHEM 1121L and CHEM 2613 and CHEM 2611L or (CHEM 3603 and CHEM 3601L).

**FDSC 531V. Internship in Food Science (Sp, Su, Fa). 1-4 Hour.**

(Formerly FDSC 431V.) The Food Science Internship is a supervised practical work experience with a food industry, research program or governmental agency to gain professional experience and insight into career opportunities. Graduate degree credit will not be given for both FDSC 431V and FDSC 531V. Prerequisite: Completion of first year of graduate studies and instructor consent. May be repeated for up to 4 hours of degree credit.

**FDSC 5333. Molecular Biology Techniques Applied to Nutrition and Food Science (Fa). 3 Hours.**

This course will provide advanced knowledge on current molecular biology techniques and how they can be used in nutrition and food science. A specific emphasis will be given on learning how to understand and interpret results generated through these methods. Therefore, the course is of interest to a wider audience, as such analytic skills are valuable for a diverse array of disciplines. Methods covered will include DNA and RNA-based techniques (PCR, microarrays, sequencing, genomics and metagenomics), protein-based techniques (blots, proteomics) and other molecules-based techniques (metabolomics, immunoblots). Prerequisite: Graduate standing.

**FDSC 5413. Sensory Evaluation of Food (Fa). 3 Hours.**

(Formerly FDSC 4413.) Principles and procedures for sensory evaluation of food. Appropriate uses of specific tests are discussed, along with physiological, psychological, and environmental factors affecting sensory verdicts. Lecture 2 hours, laboratory 2 hours per week. Graduate degree credit will not be given for both FDSC 4413 and FDSC 5413. Corequisite: Lab component. Prerequisite: STAT 2303 or WCOB 1033 or AGST 4023 or AGST 5023 (formerly AGST 4023) or STAT 2023 or PSYC 2013.

**FDSC 5423. Foodborne Diseases (Odd years, Su). 3 Hours.**

This course will introduce students to the major pathogens associated with foodborne diseases, their epidemiology, and approaches to outbreak investigation and control of foodborne illness. An emphasis will be placed on understanding the relationships between the host, the etiologic agent, and the environment as they relate to disease causation. The student will gain knowledge through lectures, case studies, readings, and an individual project. Prerequisite: BIOL 1543 or equivalent.

**FDSC 5503. Safety and Sanitation for the Food Industry (Irregular). 3 Hours.**

This web-based course will provide an appreciation of the need for sanitation in food processing and increase the students' knowledge of sanitary techniques. Topics will include contamination sources, plant and equipment design, cleaners and sanitizers, HACCP, and food biosecurity. Also covered will be considerations in selecting, establishing and maintaining a sanitation program. Prerequisite: General Microbiology or Food Microbiology; General Chemistry.

**FDSC 5563. Experiencing the Food Industry (Irregular). 3 Hours.**

(Formerly FDSC 4563.) This course will expose students to the food industry by providing insight into the food processing, packaging, distribution and retailing components of the food industry. The course will include local and regional food industry related tours. Graduate degree credit will not be given for both FDSC 4563 and FDSC 5563. May be repeated for up to 6 hours of degree credit.

**FDSC 5713. Product Innovation for the Food Scientist (Sp). 3 Hours.**

(Formerly FDSC 4713.) This is a capstone course integrating knowledge developed in Food Science to the development of new food products. This course will take an integrated multidisciplinary approach to developing innovative food products and will provide learning experiences in new product development and Research & Development. Topics include product formulation, ingredient interactions, sensory analysis, packaging, labeling, food safety and food law. Graduate degree credit will not be given for both FDSC 4713 and FDSC 5713. Corequisite: Lab component. Pre- or Corequisite: FDSC 4113 or FDSC 5113 (formerly FDSC 4113) and FDSC 4111L or FDSC 5111L (formerly FDSC 4111L). Prerequisite: FDSC 4304 or FDSC 5304 (formerly FDSC 4304), FDSC 3103, and FDSC 4413 or FDSC 5413 (formerly FDSC 4413).

**FDSC 5754. Engineering Principles of Food Processing (Even years, Sp). 4 Hours.**

(Formerly FDSC 4754.) Basic mechanics of refrigeration, temperature controls, materials handling and mechanical problems as applied to foods and food processing. Lecture 3 hours, laboratory 3 hours per week. Graduate degree credit will not be given for both FDSC 4754 and FDSC 5754. Corequisite: Lab component. Prerequisite: MATH 1213, PHYS 2013, and PHYS 2011L.

**FDSC 5823. Principles of Food Microbiology (Irregular). 3 Hours.**

(Formerly FDSC 4823.) This web-based course is a study of the fundamentals of food microbiology to include its history, classifications, spores and their importance, and the most common and serious pathogenic food microorganisms. Fermentation, spoilage microorganisms and control methodology are also discussed. Graduate degree credit will not be given for both FDSC 4823 and FDSC 5823.

**FDSC 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Master's Thesis. Prerequisite: Graduate standing. May be repeated for degree credit.

**FDSC 602V. Special Topics (Irregular). 1-3 Hour.**

Discussions focused on selected topics of particular fields of raw product physiology and food processing. chemistry, physiology, microbiology, evaluation, sensory analysis and preservation. Prerequisite: Graduate standing. May be repeated for degree credit.

**FDSC 6033. Food Biochemistry (Odd years, Fa). 3 Hours.**

Biochemical characteristics, functions, regulation and impact of components in raw and processed foods of plant origin. Lecture/discussion 3 hours per week. Prerequisite: CHEM 3813.

**FDSC 6123. Food Carbohydrate Chemistry (Even years, Fa). 3 Hours.**

Focus is on carbohydrate chemistry including molecular structures and physical properties, production and food applications, analytical methods for food carbohydrates, and interactions among food polysaccharides. Prerequisite: FDSC 4304 or FDSC 5304 (formerly FDSC 4304).

**FDSC 6133. Food Lipid Chemistry (Odd years, Sp). 3 Hours.**

Chemistry and technology of commercial fats and oils in food systems with discussion of lipid changes affecting food quality and human health. Prerequisite: FDSC 4304 or FDSC 5304 (formerly FDSC 4304).

**FDSC 6143. Advanced Food Processing and Packaging and their Environmental Impact (Even years, Sp). 3 Hours.**

The course is directed to graduate students in food science and related fields. Students will learn advanced food processing technologies and packaging as well as the environmental issues associated to food production, processing, and distribution. Prerequisite: FDSC 3103 or equivalent, or food processing/engineering background with knowledge of basic food processing operations.

**FDSC 6323. Nutraceuticals and Functional Foods (Even years, Sp). 3 Hours.**

Course will include past, present and future of nutraceuticals and functional foods, chemistry, mechanism, novel technologies, nutrigenomics, processing, healthy lifestyle, regulation, safety, marketing, international aspects, and industry project. Prerequisite: CHEM 2613 (or CHEM 3603) and CHEM 3813 and FDSC 4304 or instructor consent.

**FDSC 6333. Food Protein Chemistry and Functionality (Odd years, Sp). 3 Hours.**

This course is a study in advanced food protein chemistry, including molecular structures, characterization, physicochemical bases of food protein functionality, structure-function relationship, processing technologies to improve functionality, as well as hands-on experiences with timely, practical projects related to food proteins. Lecture and problem solving projects for 3 hours per week. Pre- or Corequisite: FDSC 4304 or FDSC 5304 (formerly FDSC 4304).



**FDSC 6403. Epidemiologic Principles in Food Safety and Public Health (Even years, Fa). 3 Hours.**

This course will provide an introduction to epidemiologic methods used in foodborne disease outbreak investigations. The importance of surveillance systems in detecting outbreaks and in the development of effective disease prevention and control strategies will also be presented. An emphasis will be placed on understanding the relationships between the host, the etiologic agent, and the environment as they relate to disease causation. In addition, molecular methods utilized for the identification of etiologic agents will be discussed. Selected important foodborne diseases will be discussed in detail to clarify the role of epidemiology in understanding the pathogenesis of infectious processes in individuals and communities. Prerequisite: FDSC 4122 or FDSC 5122 (formerly FDSC 4122) or equivalent.

**FDSC 6443. Metabolism of Xenobiotics (Even years, Fa). 3 Hours.**

This course is designed to provide in-depth knowledge of the integration of molecular, cellular, and physiologic aspects of xenobiotics (e.g. phytochemicals)/ micronutrients and metabolism. This course will also discuss the current understanding of the mechanism and regulation of gene expression by xenobiotics/ micronutrients. Examination of current research literature to understand how xenobiotics/micronutrients and physiological states metabolize and influence gene expression, as well as the research methodology used to address these relations. Prerequisite: CHEM 3813.

**FDSC 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

The doctoral program in food science is an interdepartmental program offered by the departments of Food Science, Animal and Poultry Sciences, and Human Environmental Sciences. Prerequisite: Graduate standing. May be repeated for degree credit.

## French (FREN) Courses

**FREN 1003. Elementary French I (ACTS Equivalency = FREN 1013) (Sp, Fa). 3 Hours.****FREN 1013. Elementary French II (ACTS Equivalency = FREN 1023) (Sp, Fa). 3 Hours.**

Elementary courses stress correct pronunciation, aural comprehension, and simple speaking ability, and lead to active mastery of basic grammar and limited reading ability.

**FREN 2003. Intermediate French I (ACTS Equivalency = FREN 2013) (Sp, Fa). 3 Hours.**

Intermediate courses lead to greater facility in spoken language and to more advanced reading skills.

**FREN 2013. Intermediate French II (ACTS Equivalency = FREN 2023) (Sp, Fa). 3 Hours.**

Continued development of basic speaking comprehension and writing skills and intensive development of reading skills.

**FREN 2013H. Honors Intermediate French II (Sp, Fa). 3 Hours.**

This course is equivalent to FREN 2013.

**FREN 3003. Advanced French (Sp, Su, Fa). 3 Hours.**

Further intensive practice for the purpose of strengthening written and oral expression. Includes a review of the essentials of French grammar. Prerequisite: FREN 2013 or equivalent.

**FREN 3033. French Conversation (Fa). 3 Hours.**

Three hours per week of guided conversation practice for the post-intermediate student. Prerequisite: FREN 2013.

**FREN 3063. Ph.D. Reading Requirement I (Su). 3 Hours.****FREN 3103. Cultural Readings (Sp). 3 Hours.**

A course designed to build vocabulary and to strengthen reading skills and oral expression through extensive practice with culturally authentic materials. Prerequisite: FREN 2013.

**FREN 3113. Introduction to Literature (Sp). 3 Hours.**

Further development of reading skills and introduction to literacy commentary and analysis. Prerequisite: FREN 3003 or FREN 3103.

**FREN 399VH. Honors French Course (Sp, Fa). 1-6 Hour.**

Prerequisite: Junior standing. May be repeated for up to 12 hours of degree credit.

**FREN 4003. French Grammar and Composition (Fa). 3 Hours.**

French grammar and composition. Prerequisite: FREN 3003 or FREN 3103.

**FREN 4033. French for Oral Proficiency (Sp). 3 Hours.**

Three hours per week of conversation practice for the advanced undergraduate. Prerequisite: FREN 3003 or FREN 3103.

**FREN 4113. Special Themes in French (Irregular). 3 Hours.**

Topics not normally covered in period courses. Sample topics: "The Comic Tradition in French Literature," "French Cinema." Topics announced one semester in advance. Prerequisite: FREN 3113. May be repeated for up to 3 hours of degree credit.

**FREN 4213. French Civilization (Sp). 3 Hours.**

French civilization. Prerequisite: FREN 3113.

**FREN 4223. Survey of French Literature I (Irregular). 3 Hours.**

A survey of French literature, its forms and themes from the medieval period through the 18th century. Prerequisite: FREN 3113.

**FREN 4233. Survey of French Literature II (Irregular). 3 Hours.**

A survey of French literature, its forms and themes in the 19th and 20th centuries. Prerequisite: FREN 3113.

**FREN 4243. Studies in Francophone Literature (Irregular). 3 Hours.**

Introduction to seminal writers from Francophone cultures, mainly Quebec, the Maghreb and West Africa. Exploration of the following topics: national identity, morality, religion, and exile. Study of socio-political and cultural problems, while discovering recent trends in the globalization of Francophone literature. Prerequisite: FREN 3113.

**FREN 4333. Introduction to Business French (Irregular). 3 Hours.**

Introduction and orientation to the French world of business and commerce through the study of vocabulary, forms, and formulas and expression used in commercial correspondence. Prerequisite: FREN 3113 or FREN 3103.

**FREN 4433. Business Culture and Practices (Irregular). 3 Hours.**

A practical application of French to the business world focusing on the cultural challenges faced by Americans doing business in France and francophone countries. Case studies and translations of authentic documents from French to English and English to French reinforce the specialized vocabulary of the business world. Prerequisite: FREN 3103 or FREN 3113.

**FREN 4663. French Short Story (Irregular). 3 Hours.**

Introduces the genre of the French Short Story, focusing on close readings of the stories and providing an overview of the most important literary movements of the periods from the Middle Ages to the twentieth century. Prerequisite: FREN 3113.

**FREN 475V. Special Investigations (Sp, Fa). 1-6 Hour.**

May be repeated for degree credit.

**FREN 5003. French Grammar and Phonetics (Irregular). 3 Hours.**

Systematic review of principles of French grammar and syntax; comprehensive presentation of French phonetics.

**FREN 5033. Advanced French Conversation (Irregular). 3 Hours.**

This course will provide a small discussion environment in which graduate students will improve their command of spoken French in an interactive setting. Discussion will concentrate on current cultural issues in the French speaking world.

**FREN 5213. French Culture & Civilization (Irregular). 3 Hours.**

An analysis of French cultural symbols and attitudes as observed in their historical, economical, political, social, educational, and linguistic aspects.

**FREN 5333. Old French Literature (Irregular). 3 Hours.**

An intensive study of French Medieval Literature from the Chansons de Geste to Villon, including an in-depth analysis of the genres and their evolution, and of the major authors of the times.

**FREN 5353. Survey of French Poetry (Irregular). 3 Hours.**

A comprehensive study of French poetry from the Middle Ages to the twentieth century, focusing on close readings of individual poems. This course will cover literary movements and trends of the periods and presents the terminology required to do explication de texte.

**FREN 5433. French 16th-Century Literature (Irregular). 3 Hours.**

A survey of representative writers of the sixteenth century.

**FREN 5543. French 17th-Century Literature (Irregular). 3 Hours.**

A survey of representative writers of the seventeenth century.

**FREN 5663. French Short Story (Irregular). 3 Hours.**

An introduction to the French short story, focusing on close readings of a variety of contes and nouvelles from the Middle Ages through the twenty-first century.

**FREN 5673. French 18th-Century Literature (Irregular). 3 Hours.**

May be offered in a subject not specifically covered by the courses otherwise listed. May be repeated for up to 6 hours of degree credit.

**FREN 575V. Special Investigations (Irregular). 1-6 Hour.**

May be repeated for degree credit.

**FREN 5773. Survey of Francophone Literature (Irregular). 3 Hours.**

A survey of representative texts in the field of sub-Saharan and North African literature concentrating on postcolonial novels using contemporary critical approaches.

**FREN 5783. The French Nineteenth-Century Novel (Irregular). 3 Hours.****FREN 5813. French 20th-Century Theatre (Irregular). 3 Hours.****FREN 5833. French 20th-Century Novel (Irregular). 3 Hours.**

## Gender Studies (GNST) Courses

**GNST 2003. Introduction to Gender Studies (Sp, Fa). 3 Hours.**

This course explores cultural constructions of gender and sexuality using a variety of media, including literature, film, and architecture.

**GNST 2003H. Honors Introduction to Gender Studies (Sp, Fa). 3 Hours.**

This course explores cultural constructions of gender and sexuality using a variety of media, including literature, film, and architecture.

This course is equivalent to GNST 2003.

**GNST 3583. Body and Identity (Irregular). 3 Hours.**

This course explores personal, social and cultural constructions and performances of the body and identity, highlighting key intersections of embodiment including gender, race, sexuality and abilities.

This course is cross-listed with ANTH 3583.

**GNST 4363. Gender, Race, and Power (Irregular). 3 Hours.**

Examines how communication shapes gender, race, sexuality, and power. Rather than focusing exclusively on interpersonal communication, this course looks at theories of power that shape institutional macro communication.

This course is cross-listed with COMM 4363.

**GNST 4733. Reel Women (Irregular). 3 Hours.**

An examination of films made for, about, and/or by women with the aim of better understanding and centralizing issues pertinent to women's daily lives. Prerequisite: COMM 1003.

This course is cross-listed with COMM 4733.

**GNST 4743. Representational Issues in Film (Irregular). 3 Hours.**

An examination of the varying ways that race and ethnicity, gender, sexual orientation, gender identity, class, (dis)ability, and age are represented in and by film - both historically and culturally. Prerequisite: COMM 1003.

This course is cross-listed with COMM 4743.

**GNST 490V. Independent Study (Irregular). 1-6 Hour.**

An exploration of gender studies topics studied independently with the supervision of a faculty member. Credit arranged with instructor. Prerequisite: GNST 2003 or GNST 2003H or instructor consent. May be repeated for up to 6 hours of degree credit.

**GNST 490VH. Honors Independent Study (Irregular). 1-6 Hour.**

An exploration of gender studies topics studied independently with the supervision of a faculty member. Credit arranged with instructor. Prerequisite: GNST 2003 or GNST 2003H or instructor consent and honors standing. May be repeated for up to 6 hours of degree credit.

This course is cross-listed with GNST 490V.

**GNST 4913. Internship in Gender Studies (Sp, Su, Fa). 3 Hours.**

Internship in applied gender work within public and private organizations. Prerequisite: 3 hours of GNST coursework and instructor consent. May be repeated for up to 6 hours of degree credit.

**GNST 4983. Special Topics in Gender Studies (Irregular). 3 Hours.**

This course covers gender topics that are not usually offered in-depth in regularly offered courses. Prerequisite: GNST 2003 or GNST 2003H. May be repeated for up to 6 hours of degree credit.

## General Engineering (GNEG) Courses

**GNEG 1103. Introduction to Engineering (Sp, Fa). 3 Hours.**

This introductory course for first year engineering students introduces them to the fields of engineering and many of the modeling and problem solving techniques used by engineers. It also introduces the students to the engineering profession and some of the computer tools necessary for pursuing a degree in engineering. This course is designed for current and future transfer students. Freshman engineering students on campus should select GNEG 1201 or GNEG 1111 as appropriate. Pre- or Corequisite: MATH 1203 or MATH 1204 or MATH 1284 or MATH 2554 or MATH 2564 or MATH 2574 or MATH 2584 or MATH 3083 or MATH 2603. Corequisite: Engineering major.

**GNEG 1111. Introduction to Engineering I (Sp, Fa). 1 Hour.**

Fundamentals of engineering problem-solving including skills from mathematics, science, and computing. Introduction to the engineering design process through team-based activities. Study of the contemporary engineering profession and the disciplines within the College of Engineering. Corequisite: Drill component and MATH 1284 or MATH 2445 or MATH 2554 or MATH 2564 or MATH 2574 or MATH 2584 or MATH 3083 or MATH 2603. Prerequisite: Engineering First Year majors only.

**GNEG 1111H. Honors Introduction to Engineering I (Sp, Fa). 1 Hour.**

Fundamentals of engineering problem-solving including skills from mathematics, science, and computing. Introduction to the engineering design process through team-based activities. Study of the contemporary engineering profession and the disciplines within the College of Engineering. Corequisite: Drill component and MATH 1284 or MATH 2445 or MATH 2554 or MATH 2564 or MATH 2574 or MATH 2584 or MATH 3083 or MATH 2603. Prerequisite: Engineering First Year majors only. Honors College students only.

This course is equivalent to GNEG 1111.

**GNEG 1121. Introduction to Engineering II (Sp, Fa). 1 Hour.**

Further study of engineering problem-solving including skills from mathematics, science, and computing. Experience with the engineering design process through a major, team-based project. Selecting a major within the College of Engineering. Discussion of academic and professional opportunities for engineering students. Corequisite: Drill component and MATH 2445 or MATH 2554 or MATH 2564 or MATH 2574 or MATH 2584 or MATH 3083 or MATH 2603. Prerequisite: GNEG 1111 or GNEG 1111H or GNEG 1515 and Engineering First Year majors only.

**GNEG 1121H. Honors Introduction to Engineering II (Sp, Fa). 1 Hour.**

Further study of engineering problem-solving including skills from mathematics, science, and computing. Experience with the engineering design process through a major, team-based project. Selecting a major within the College of Engineering. Discussion of academic and professional opportunities for engineering students. Corequisite: Drill component and MATH 2445 or MATH 2554 or MATH 2564 or MATH 2574 or MATH 2584 or MATH 3083 or MATH 2603. Prerequisite: GNEG 1111H or GNEG 1111 or GNEG 1515, Engineering First Year majors only and Honors College students only.

This course is equivalent to GNEG 1121.

**GNEG 1122. Introduction CAD (Sp, Fa). 2 Hours.**

General course in the use of engineering drawings for communications and design. Proper use of computer for computer-aided drafting and design; 2-dimensional, 3-dimensional, and solid modeling; use of manual drafting equipment; geometrical exercises; orthographic projections; auxiliary view; sketching; dimensioning. Corequisite: Lab component. Pre- or Corequisite: MATH 1213 or higher.

**GNEG 1201. Fundamentals of Success in Engineering Study (Sp, Fa). 1 Hour.**

Assisting Engineering First Year students in developing skills for successful completion of engineering course work. Building a supportive learning community, assisting students in developing positive attitudes and productive behaviors resulting in both academic and personal success, and informing students of the resources available for maintaining their academic and personal wellness. Corequisite: Drill component and MATH 1204 or MATH 1203 or MATH 1284. Prerequisite: Engineering First Year student only.

**GNEG 1301H. Honors Research Colloquium (Fa). 1 Hour.**

Exploration of topics and processes associated with academic research in the engineering profession. Offered to a select group of Engineering First Year students enrolled in the Honors College. Corequisite: GNEG 1311H and MATH 2564 or MATH 2574 or MATH 2584 or MATH 3083 or MATH 2603.

**GNEG 1311H. Honors Research Experience I (Fa). 1 Hour.**

An initial undergraduate research experience for a select group of Engineering First Year students enrolled in the Honors College. Corequisite: GNEG 1301H and MATH 2564 or MATH 2574 or MATH 2584 or MATH 3083 or MATH 2603.

**GNEG 1322H. Honors Research Experience II (Sp). 2 Hours.**

Continuation of GNEG 1311H culminating with the annual Freshman Engineering Program Honors Research Symposium. Pre- or Corequisite: MATH 2564. Prerequisite: GNEG 1311H.

**GNEG 1401H. Honors Innovation Colloquium (Fa). 1 Hour.**

Exploration of topics and processes associated with innovation, entrepreneurship, and design in the engineering profession. Offered to a select group of Engineering First Year students enrolled in the Honors College. Corequisite: Drill component, GNEG 1411H and MATH 2564 or MATH 2574 or MATH 2584 or MATH 3083 or MATH 2603.

**GNEG 1411H. Honors Innovation Experience I (Fa). 1 Hour.**

An initial undergraduate innovation experience for a select group of Engineering First Year students enrolled in the Honors College. Corequisite: GNEG 1401H and MATH 2564 or MATH 2574 or MATH 2584 or MATH 3083 or MATH 2603.

**GNEG 1422H. Honors Innovation Experience II (Sp). 2 Hours.**

Continuation of GNEG 1411H. Pre- or Corequisite: MATH 2564. Prerequisite: GNEG 1411H and honors standing.

**GNEG 1503. Pre-Engineering Applications of Mathematics (Irregular). 3 Hours.**

Overview of the basic algebra and trigonometry skills used in engineering. All topics are motivated by engineering applications. Prerequisite: Departmental consent.

**GNEG 1515. Engineering Applications of Mathematics (Sp, Fa). 5 Hours.**

Overview of the mathematics topics heavily used in sophomore-level engineering courses. Topics include algebraic analysis, trigonometry, vectors and complex numbers, sinusoids and harmonic signals, systems of equations and matrices, differentiation, integration, and differential equations. All topics motivated by engineering applications. Usage of mathematical analysis software is emphasized. Prerequisite: MATH 1203, MATH 1204, a score of 80% or better on the Preparedness for Algebra Exam, a score of at least 23 on the math component of the ACT, or a score of at least 540 on the math component of the SAT.

**GNEG 190V. Special Topics (Irregular). 1-5 Hour.**

Consideration of current engineering topics not covered in other courses. Prerequisite: Instructor's consent.

**GNEG 290V. Special Topics (Irregular). 1-5 Hour.**

Consideration of current engineering topics not covered in other courses. Prerequisite: Instructor's consent.

**GNEG 3103. Globalization and Innovation (Irregular). 3 Hours.**

Integration of engineering in the globalized business environment. Innovation and integration models. Global survival skills. International organizational value-chain. Conducting business with emerging nations. Case studies; field trips; guest lectures. Experiential learning design component. Taken by students participating in departmental approved study abroad programs. May not earn credit for GNEG 4103 or 5103.

**GNEG 3103H. Honors Globalization and Innovation (Irregular). 3 Hours.**

Integration of engineering in the globalized business environment. Innovation and integration models. Global survival skills. International organizational value-chain. Conducting business with emerging nations. Case studies; field trips; guest lectures. Experiential learning design component. Taken by students participating in departmental approved study abroad programs. May not earn credit for GNEG 4103 or 5103.

This course is equivalent to GNEG 3103.

**GNEG 3113. Special Topics-Study Abroad (Irregular). 3 Hours.**

Students travel abroad to gain a global perspective on a particular facet of the engineering discipline. Students are required to complete pre-travel investigative or background assignments, participate in all activities of the actual trip and will produce a post travel reflective or comparative product relative to the special topic. Prerequisite: Instructor consent. May be repeated for up to 9 hours of degree credit.

**GNEG 3801. Parallel Cooperative Education (Sp, Su, Fa). 1 Hour.**

Part time supervised experience in industry where students apply classroom skills to problems specific to their discipline in a professional workplace setting. Credit may not be applicable to degree programs in engineering. Prerequisite: Instructor permission.

**GNEG 3811. Alternating Cooperative Education (Sp, Su, Fa). 1 Hour.**

Full time supervised experience in industry where students apply classroom skills to problems specific to their discipline in a professional workplace setting. Application of credit to a degree program is at the discretion of the department owning the degree program. Prerequisite: Instructor permission.

**GNEG 390V. Special Topics (Irregular). 1-4 Hour.**

Consideration of current engineering topics not covered in other courses. Prerequisite: Instructor's consent. May be repeated for up to 4 hours of degree credit.

**GNEG 390VH. Honors Special Topics (Irregular). 1-4 Hour.**

Consideration of current engineering topics not covered in other courses. Prerequisite: Instructor's consent. May be repeated for up to 4 hours of degree credit.

This course is equivalent to GNEG 390V.

**GNEG 4103. Globalization and Innovation (Irregular). 3 Hours.**

Integration of engineering in the globalized business environment. Innovation and integration models. Global survival skills. International organizational value-chain. Conducting business with emerging nations. Case studies; field trips; guest lectures. Experiential learning design component. Taken by students participating in departmental approved study abroad programs. May not earn credit for GNEG 3103 or 5103.

**GNEG 4103H. Honors Globalization and Innovation (Irregular). 3 Hours.**

Integration of engineering in the globalized business environment. Innovation and integration models. Global survival skills. International organizational value-chain. Conducting business with emerging nations. Case studies; field trips; guest lectures. Experiential learning design component. Taken by students participating in departmental approved study abroad programs. May not earn credit for GNEG 3103 or 5103.

This course is equivalent to GNEG 4103.

**GNEG 490V. Special Topics (Irregular). 1-4 Hour.**

Consideration of current engineering topics not covered in other courses. Prerequisite: Instructor's consent. May be repeated for up to 4 hours of degree credit.

**GNEG 490VH. Honors Special Topics (Irregular). 1-4 Hour.**

Consideration of current engineering topics not covered in other courses. Prerequisite: Instructor's consent. May be repeated for up to 4 hours of degree credit.

This course is equivalent to GNEG 490V.

**GNEG 5103. Globalization and Innovation (Irregular). 3 Hours.**

Integration of engineering in the globalized business environment. Innovation and integration models. Global survival skills. International organizational value-chain. Conducting business with emerging nations. Case studies; field trips; guest lectures. Experiential learning design component. Taken by students participating in departmental approved study abroad programs. May not earn credit for GNEG 3103 or 4103.

**GNEG 550V. Master's Research Project (Irregular). 1-3 Hour.**

Required course for MSE students who wish to complete a Master's research project as part of their degree program. Prerequisite: Instructor permission.

**GNEG 5801. Parallel Cooperative Education (Sp, Su, Fa). 1 Hour.**

Part time supervised experience in industry where students apply focused, discipline specific, classroom and research skills to problems directly related to their area of study in a professional work place setting. May be repeated for up to 3 hours of non-degree credit. Prerequisite: Instructor permission.

**GNEG 5811. Alternating Cooperative Education (Sp, Su, Fa). 1 Hour.**

Full time supervised experience in industry where students apply focused, discipline specific, classroom and research skills to problems directly related to their area of study in a professional work place setting. May be repeated for up to 3 hours of non-degree credit. Prerequisite: Instructor permission.

**GNEG 590V. Special Topics (Irregular). 1-4 Hour.**

Consideration of current engineering topics not covered in other courses. Prerequisite: Instructor's consent. May be repeated for up to 4 hours of degree credit.

## Geosciences (GEOS) Courses

**GEOS 1111L. General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa). 1 Hour.**

Laboratory exercises concerning the identification of rocks and minerals, use of aerial photographs and topographic maps, and several field trips. Pre- or Corequisite: GEOS 1113.

This course is equivalent to GEOL 1111L.

**GEOS 1111M. Honors General Geology Laboratory (Fa). 1 Hour.**

Survey of geological processes and products and their relationships to landforms, natural resources, living environments, and human beings. Lecture 3 hours, laboratory 2 hours per week. Corequisite: GEOS 1113H.

This course is equivalent to GEOL 1111L.

**GEOS 1113. General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa). 3 Hours.**

Survey of geological processes and products, and their relationships to landforms, natural resources, living environments and human beings. Lecture 3 hours per week. GEOS 1111L is recommended as a corequisite.

This course is equivalent to GEOL 1113.

**GEOS 1113H. Honors General Geology (Irregular). 3 Hours.**

Survey of geological processes and products and their relationships to landforms, natural resources, living environments, and human beings. Lecture 3 hours, laboratory 2 hours per week. Corequisite: GEOS 1111M.

This course is equivalent to GEOL 1113.

**GEOS 1123. Human Geography (ACTS Equivalency = GEOG 1113) (Sp, Su, Fa). 3 Hours.**

Basic course in human geography stressing the interrelationships between the natural factors of the environment and man's activities, especially the role of geography in the understanding of social problems and economic and political activities.

**GEOS 1131L. Earth Science Laboratory (ACTS Equivalency = GEOL 1124 Lab) (Sp, Fa). 1 Hour.**

Laboratory exercises concerning human interactions with the physical environment including the study of earthquakes, volcanoes, flooding, erosion, mass wasting, water supply and contamination, and waste disposal.

**GEOS 1133. Earth Science (ACTS Equivalency = GEOL 1124 Lecture) (Sp, Fa). 3 Hours.**

The application of earth science principles and knowledge of problems created by human occupancy and exploitation of the physical environment.

**GEOS 2003. World Regional Geography (ACTS Equivalency = GEOG 2103) (Sp, Fa). 3 Hours.**

Survey of problems, development potential, and physical and human resources of the developing and developed world.

**GEOS 2003H. Honors World Regional Geography (Sp, Fa). 3 Hours.**

Survey of problems, development potential, and physical and human resources of the developing and developed world. Prerequisite: Honors candidacy.

This course is equivalent to GEOS 2003.

**GEOS 2313. Mineralogy and Petrology (Fa). 3 Hours.**

General principles of mineralogy and petrology, study and identification of common minerals, igneous & metamorphic rocks using hand samples. Corequisite: Lab component. Prerequisite: GEOS 1113 and CHEM 1103.

**GEOS 3013. Foundations of Geospatial Data Analysis (Sp, Fa). 3 Hours.**

Basic mathematical tools applied in geospatial technology, including trigonometry in mapping, linear algebra in remote sensing, optimization in spatial decision support, and graph theory in routing. Course develops the framework for spatial data analysis and decision support. Students may receive credit for the course through testing.

Prerequisite: GEOS 3543.

**GEOS 3023. Introduction to Cartography (Fa). 3 Hours.**

Students learn basic principles of map design, cartographic theory and field surveying to produce a variety of computer-generated maps. An introductory course designed for students in a variety of different disciplines using AutoCad software and various new technologies. Field trips may be required.

**GEOS 3033. Building Materials Field Studies (Irregular). 3 Hours.**

Study of durable building materials, their availability, strength, deterioration, limitation and utility. Historic construction techniques, identification of architectural materials, architectural elements assessment, causes and mechanisms of deterioration, conservation and treatment of architectural materials, preservation philosophies and standards and creation of a practical field identification kit will also be covered. Corequisite: Lab component.

**GEOS 3043. Sustaining Earth (Sp, Su, Fa). 3 Hours.**

Theory and growth of conservation and sustainability, the wise use of the major natural resources of the United States. This course meets the requirement in conservation and sustainability for teachers. Prerequisite: Junior standing.

This course is cross-listed with GEOS 3043H.

**GEOS 3043H. Honors Sustaining Earth (Sp, Su, Fa). 3 Hours.**

Theory and growth of conservation and the wise use of the major natural resources of the United States. This course meets the requirement in conservation for teachers. Prerequisite: Junior standing.

This course is cross-listed with GEOS 3043.

**GEOS 3052. Geology for Engineers (Fa). 2 Hours.**

Geologic principles involved in construction, reservoir location, etc. Lecture 2 hours, laboratory 2 hours per week. Corequisite: Lab component.

**GEOS 3062. Geology of Arkansas (Sp). 2 Hours.**

A survey of the distribution, genesis, and age of the rocks, fossils, structures, landforms and geological processes of Arkansas. Equivalent to two hours of lecture per week. Field trips required. Prerequisite: GEOS 1113 or GEOS 1113H.

**GEOS 3103. Geospatial Technologies Computational Toolkit (Sp, Fa). 3 Hours.**

Basic computational tools and processes applied in geospatial software, related computer hardware components, systems and applications software, and spatial database fundamentals. Python, including SciPy and NumPy, geospatial implementations will be emphasized. No programming experience is required. Students may receive credit for the course through testing. Prerequisite: GEOS 3543.

**GEOS 3114. Invertebrate Paleontology (Sp). 4 Hours.**

Survey of the invertebrate phyla commonly preserved as fossils emphasizing their physical and biological characteristics. Lecture 3 hours, laboratory 2 hours per week. Corequisite: Lab component. Prerequisite: GEOL 1133 or (BIOL 1543 and BIOL 1541L) or equivalent.

**GEOS 3313. Igneous and Metamorphic Rocks (Sp). 3 Hours.**

Megascopic study and classification of igneous and metamorphic rocks. Lecture 2 hours, laboratory 2 hours per week. Corequisite: Lab component. Prerequisite: GEOS 2313.

**GEOS 3333. Oceanography (Even years, Sp). 3 Hours.**

The sea, its landforms; its winds and currents as related to the atmosphere, world climates, and world trade; its basin as avenues for continental drift; its waters as habitat for plant and animal life; its marine and submarine resources as presently and potentially useful to man. Offered as physical science. Prerequisite: Junior standing.

**GEOS 3383. Principles of Landscape Evolution (Fa). 3 Hours.**

Examines the role of waves, rivers, wind, and tectonics in shaping and modifying the surface of the earth. Considers the way in which an understanding of landscape processes is essential to the effective solution of environmental problems. Lecture 3 hours. May be repeated for up to 3 hours of degree credit.

**GEOS 3413. Sedimentary Rocks & Fossils (Sp). 3 Hours.**

An introductory study of sedimentary rocks and fossils from the standpoint of classification, field and laboratory description, genesis, and preservation. Lecture 2 hours, laboratory 2 hours per week. Corequisite: Lab component. Prerequisite: GEOS 2313.

**GEOS 3514. Structural Geology (Sp). 4 Hours.**

Survey of deformational features and their geological significance in the crust of the earth. Lecture 3 hours per week. Corequisite: Lab component. Prerequisite: GEOS 1113 or GEOS 3052.

**GEOS 3543. Geospatial Applications and Information Science (Sp, Fa). 3 Hours.**

An introduction to the methods and theory underlying the full range of geographic information science and collateral areas - including GNSS, remote sensing, cadastral, spatial demographics and others.

This course is cross-listed with ANTH 3543.

**GEOS 3553. Spatial Analysis Using ArcGIS (Sp, Fa). 3 Hours.**

Applications of analysis of spatial data using ArcGIS tools in map design, on-line mapping, creating geodatabases, accessing geospatial data, geo-processing, digitizing, geocoding, spatial analysis including basic spatial statistics, analysis of spatial distributions and patterning and 3D application using ArcGIS 3D Analyst. Prerequisite: GEOS 3543.

**GEOS 3563. Geospatial Data Mining (Sp, Fa). 3 Hours.**

Basic tools for analyzing, summarizing and visualizing geospatial data. Exploratory data and spatial data analysis, probability distributions and application, single and multivariate analysis and hypothesis testing, and spatial smoothing and interpolation. Emphasis will be on problem solving in geospatial settings using the R statistical language. Prerequisite: GEOS 3003 and GEOS 3103 or equivalent.

**GEOS 3593. Introduction to Geodatabases (Sp, Fa). 3 Hours.**

Fundamental concepts and applications of geospatial databases. Schema development and spatial data models for geodata. Spatial and attribute query and optimization, properties and structures of relational and object-oriented geodatabases. Spatial extensions of SQL, spatial indexing, measurement, and geometry. Prerequisite: GEOS 3543, GEOS 3003 and GEOS 3103.

**GEOS 360V. Undergraduate Special Problems (Sp, Su, Fa). 1-6 Hour.**

Library, laboratory, or field research in different phases of geology. May be repeated for up to 6 hours of degree credit.

**GEOS 3901. Junior Honors Course (Sp, Su, Fa). 1 Hour.**

Special honors research in geology. One hour credit each semester. Prerequisite: Junior standing.

**GEOS 3911. Junior Honors Course (Sp, Su, Fa). 1 Hour.**

Special honors research in geology. One hour credit each semester. Prerequisite: Junior standing.

**GEOS 3923H. Honors Colloquium (Irregular). 3 Hours.**

Covers a special topic or issue, offered as part of the honors program. Prerequisite: Honors candidacy (not restricted to candidacy in geology or geography). May be repeated for degree credit.

**GEOS 399VH. Honors Course (Irregular). 1-6 Hour.**

Honors course. Prerequisite: Junior standing. May be repeated for up to 6 hours of degree credit.

**GEOS 4033. Hydrogeology (Sp). 3 Hours.**

Occurrence, movement, and interaction of water with geologic and cultural features. Lecture 3 hours per week. Corequisite: Lab component. Prerequisite: MATH 2043 or MATH 2554, and GEOS 3514.

**GEOS 4043. Geography of the Middle East (Fa). 3 Hours.**

Physical and cultural landscapes, natural and cultural resources, art and architecture, land use, political history, OPEC, and current problems of North Africa and the Middle East region west of Afghanistan are discussed. Class participation, discussions, slides and films, and student presentations will round out the class. Prerequisite: Junior standing.

**GEOS 4043H. Honors Geography of the Middle East (Irregular). 3 Hours.**

Physical and cultural landscapes, natural and cultural resources, art and architecture, land use, political history, OPEC, and current problems of North Africa and the Middle East region west of Afghanistan are discussed. Class participation, discussions, slides and films, and student presentations will round out the class. Prerequisite: Junior standing.

This course is equivalent to GEOS 4043.

**GEOS 4053. Geomorphology (Sp). 3 Hours.**

Mechanics of landform development. Lecture 2 hours, laboratory 3 hours per week. Several local field trips are required during the semester. Corequisite: Lab component. Prerequisite: GEOS 1113 or GEOS 3052.

**GEOS 4063. Principles of Geochemistry (Fa). 3 Hours.**

Introduction to fundamental principles of geochemistry from historic development to modern concepts. Corequisite: Lab component. Prerequisite: CHEM 1121L, CHEM 1123 and GEOS 2313.

**GEOS 4073. Urban Geography (Sp). 3 Hours.**

Areal patterns of modern urban regions and the focus shaping these patterns. Emphasis is placed on American urban areas and their evolution and functional areas. Field work. Prerequisite: Junior standing.

**GEOS 4083. Economic Geology (Irregular). 3 Hours.**

Introduction to mineral deposits used as economic resources. Covers basic geology and geochemistry of mineral deposit formations and the formation of major classes of deposits. Examines the relationship between the distribution of ores, oil, gas, coal, and Plate Tectonics. Explores environmental issues associated with the extraction of earth resources. Prerequisite: GEOS 2313.

**GEOS 4093. History and Philosophy of Geography (Even years, Sp). 3 Hours.**

This course familiarizes students with the history of geography, the contributions of geographers to scientific thought and theory, and research techniques that are used in geography. Emphasis is given to the integration of statistical and spatial analysis, and their applications in field research. The course includes short field-based projects in and around Northwest Arkansas.

**GEOS 410V. Special Problems in Geosciences (Fa). 1-6 Hour.**

Designed to meet the needs of students who wish to study one particular geographic topic in some detail. Prerequisite: Junior standing. May be repeated for up to 6 hours of degree credit.

**GEOS 410VH. Honors Special Problems in Geosciences (Fa). 1-6 Hour.**

Designed to meet the needs of students who wish to study one particular geographic topic in some detail. Prerequisite: Junior standing. May be repeated for up to 6 hours of degree credit.

This course is equivalent to GEOS 410V.

**GEOS 4133. Radar Remote Sensing (Sp). 3 Hours.**

Introduction to radar remote sensing and its applications in geology, geography, archeology, engineering, and agriculture. Focuses on Synthetic Aperture Radar (SAR) and advanced techniques including radar stereo, polarimetry, and interferometry. Covers Interferometric SAR (InSAR) for mapping topography and modeling Earth's surface motions due to earthquakes, volcanic eruptions, landslides, and subsidence. Prerequisite: GEOS 3023 or equivalent.

**GEOS 4153. Karst Hydrogeology (Irregular). 3 Hours.**

Assessment of ground water resources in carbonate rock terrains; relation of ground water and surface water hydrology to karst; quantification of extreme variability in karst environments; data collection rationale. Field trips required. Prerequisite: GEOS 4033.

**GEOS 4223. Stratigraphy and Sedimentation (Fa). 3 Hours.**

Introductory investigation of stratigraphic and sedimentologic factors important to the study of sedimentary rocks. Lecture 2 hours, laboratory 3 hours per week. A required weekend, two-day field trip will be conducted during the semester. Corequisite: Lab component. Prerequisite: GEOS 3413.

**GEOS 4233. Geography of Religion & Sacrality (Irregular). 3 Hours.**

Explores the spatial nature of the World's major faiths and religious institutions, focusing on the distribution and origins of these religions. Examines the religious beliefs, rituals, architecture, demographics, and art in different societies, cultures, and countries. Considers the tenets and practices of what is sacred and/or spiritual, held in common by a group or community. Prerequisite: Junior or senior standing.

**GEOS 4243. Political Geography (Odd years, Fa). 3 Hours.**

Contemporary world political problems in their geographic context. Development of the principles of political geography with emphasis upon the problems of Eastern Europe, Africa, and Southeast Asia. Prerequisite: Junior standing.

**GEOS 4253. Petroleum Geology (Fa). 3 Hours.**

Distribution and origin of petroleum. Lecture 2 hours, laboratory 2 hours per week. Corequisite: Lab component. Prerequisite: Geology major and senior standing.

**GEOS 430V. Internship in Physical Geography (Sp, Su, Fa). 3-6 Hour.**

Supervised experience in municipal, county, state or private natural resource management agency, or any other such organization approved by instructor.

**GEOS 4353. Meteorology (Fa). 3 Hours.**

Examination of the atmospheric processes that result in multifarious weather systems. Offered as physical science. Prerequisite: Junior standing.

**GEOS 4363. Climatology (Sp). 3 Hours.**

Fundamentals of topical climatology followed by a study of regional climatology. Offered as physical science. Prerequisite: GEOS 1133 or GEOS 4353.

**GEOS 437V. Geology Field Trip (Sp). 1-2 Hour.**

Camping field trip to areas of geologic interest, usually conducted during Spring Break. Prerequisite: GEOS 3313. May be repeated for up to 4 hours of degree credit.

**GEOS 4383. Hazard & Disaster Assessment, Mitigation, Risk & Policy (Sp). 3 Hours.**

Comprehensive introduction to interdisciplinary approaches to natural and environmental hazards and risk. Hazards and disaster assessment, mitigation, and policy are the focus of the class. Prerequisite: Junior or senior standing. May be repeated for up to 6 hours of degree credit.

**GEOS 4383H. Honors Hazard & Disaster Assessment, Mitigation, Risk & Policy (Sp). 3 Hours.**

Comprehensive introduction to interdisciplinary approaches to natural and environmental hazards and risk. Hazards and disaster assessment, mitigation, and policy are the focus of the class. Prerequisite: Junior or senior standing. This course is equivalent to GEOS 4383.

**GEOS 4393. American Public Lands & Policy (Irregular). 3 Hours.**

The course examines the role of American federal public lands in 19th-21st century geography, history, policy, and art. It investigates the growth of conservation, preservation, and management movements in the US by looking at America's national parks, forests, dams, wildlife refuges, wilderness areas, managed and agricultural lands. Prerequisite: Junior or senior standing.

**GEOS 4393H. Honors American Public Lands & Policy (Irregular). 3 Hours.**

The course examines the role of American federal public lands in 19th-21st century geography, history, policy, and art. It investigates the growth of conservation, preservation, and management movements in the US by looking at America's national parks, forests, dams, wildlife refuges, wilderness areas, managed and agricultural lands. Prerequisite: Honors standing and Junior or senior standing. This course is equivalent to GEOS 4393.

**GEOS 440V. Internship in GIS & Cartography (Sp, Su, Fa). 3-6 Hour.**

Supervised experience in GIS and/or cartographic applications with municipal, county, state, or private enterprises. May be repeated for up to 6 hours of degree credit.

**GEOS 4413. Principles of Remote Sensing (Fa). 3 Hours.**

Fundamental concepts of remote sensing of the environment. Optical, infrared, microwave, LIDAR, and in situ sensor systems are introduced. Remote sensing of vegetation, water, urban landscapes, soils, minerals, and geomorphology is discussed. The course includes laboratory exercises in GIS software and field spectroscopy. Prerequisite: GEOS 3023 or GEOS 3543.

**GEOS 4433. Geophysics (Irregular). 3 Hours.**

Derivation from physical principles, of the geophysical methods for mapping the Earth. Computational methods of converting gravity, magnetic, radiometric, electrical, and seismic data into geologic information. Lecture 3 hours, laboratory 2 hours per week. Corequisite: Lab component. Prerequisite: MATH 2564 and PHYS 2033 and PHYS 2031L and GEOS 3514.

**GEOS 4443. The Solid Earth: Structure, Composition and Evolution (Irregular). 3 Hours.**

Modern views for the origin of the solid Earth and its structure, composition, and evolution through geologic time. Topics will include examination of relevant geophysical and geochemical constraints used to develop global models for the Earth. Prerequisite: CHEM 1123, GEOS 3313, MATH 2564, PHYS 2074 or instructor consent.

This course is cross-listed with GEOS 5443.

**GEOS 4463. 3D Seismic Exploration (Sp). 3 Hours.**

Interpretation of the spatial component of three-dimensional seismic data in geologic structure and stratigraphy with emphasis on hydrocarbon exploration. Prerequisite: GEOS 3514 or instructor consent.

**GEOS 4473. Applied Climatology (Fa). 3 Hours.**

Applied climatology involves the use of climatic data to solve a variety of social, economic and environmental problems, such as for clients in agriculture, water and energy management. The basic purpose of applied climatology is to help society, at all scales and levels, to achieve a better adjustment to the climatic environment.

**GEOS 4473H. Honors Applied Climatology (Fa). 3 Hours.**

Applied climatology involves the use of climatic data to solve a variety of social, economic and environmental problems, such as for clients in agriculture, water and energy management. The basic purpose of applied climatology is to help society, at all scales and levels, to achieve a better adjustment to the climatic environment. This course is equivalent to GEOS 4473.

**GEOS 4483. Severe Weather (Sp). 3 Hours.**

Focuses on the formation and impact of weather phenomena such as blizzards, floods, tornadoes, thunderstorms, hurricanes and droughts. Covers the mechanisms and physics that control severe weather, advanced terminology, physical concepts and scientific methods used in meteorology, and the analysis and interpretation of meteorological data. Prerequisite: GEOL 1133 and GEOL 1131L.

**GEOS 4503. Advanced Cartographic Techniques & Production (Irregular). 3 Hours.**

Covers advanced production and techniques in cartography, including animation, geospatial visualization, pochade, and advanced visualization. Emphasizes client relationships in creating and producing cartographic materials. Prerequisite: GEOS 4523.

**GEOS 4513. Introduction to GIS Programming (Fa). 3 Hours.**

This course introduces fundamentals of GIS software engineering and offers hands-on tutorials in customized applications using Arc GIS through programming ArcObjects in VBA / VA.net environment. Topics covered include ArcObjects, different programming syntax and styles, and fundamental routines and functions in ArcGIS. After completing the course, students will have the capability to develop customized ArcGIS applications.

**GEOS 4523. Cartographic Design and Production (Sp). 3 Hours.**

This course addresses advanced cartographic concepts (i.e. visual hierarchy, aesthetics, image cognition) and production techniques as they relate to computer-assisted mapping. Students produce a variety of maps using Adobe Illustrator (CS 4-6) software to build a map portfolio. Field trips may be required. Prerequisite: GEOS 3023.

**GEOS 4533. Introduction to Petroleum Geophysics (Fa). 3 Hours.**

Introduction to seismic wave propagation and petroleum seismology with particular emphasis on seismic events, elastic waves, and seismic survey design. Prerequisite: MATH 2564, PHYS 2033, and GEOL 3514 or consent of instructor.

**GEOS 4553. Introduction to Raster GIS (Fa). 3 Hours.**

Theory, data structure, algorithms, and techniques behind raster-based geographical information systems. Through laboratory exercises and lectures multidisciplinary applications are examined in database creation, remotely sensed data handling, elevation models, and resource models using boolean, map algebra, and other methods. Prerequisite: GEOS 3543 or ANTH 3543. This course is cross-listed with ANTH 4553.

**GEOS 4563. Geology of Our National Parks (Fa). 3 Hours.**

This course examines the underlying geology responsible for selected parks, and explores the interplay of geology, biology, climate, topography, and humans to evaluate the value of the parks, and to anticipate the problems they will face in the near and long-term. Prerequisite: GEOL 1113.

**GEOS 4563H. Honors Geology of Our National Parks (Fa). 3 Hours.**

This course examines the underlying geology responsible for selected parks, and explores the interplay of geology, biology, climate, topography, and humans to evaluate the value of the parks, and to anticipate the problems they will face in the near and long-term. Prerequisite: GEOL 1113. This course is equivalent to GEOS 4563.

**GEOS 4583. Vector GIS (Sp). 3 Hours.**

Introduction to geographic information systems (GIS) applications in marketing, transportation, real estate, demographics, urban and regional planning, and related areas. Lectures focus on development of principles, paralleled by workstation-based laboratory exercises using mainstream GIS software and relational databases. Prerequisite: GEOS 3023 or GEOS 3543. This course is cross-listed with ANTH 4563.

**GEOS 4593. Introduction to Global Positioning Systems and Global Navigation Satellite Systems (Fa). 3 Hours.**

Fundamentals of navigation, mapping, and high-precision positioning using the Navstar Global Positioning System. Topics include datum definition and transformation, map projections, autonomous and differential positioning using both code and carrier processing, and analysis of errors. Prerequisite: GEOS 3543 or GEOS 5543.

This course is cross-listed with ANTH 4593.

**GEOS 4643. Introduction to Internet GIS (Sp). 3 Hours.**

This course introduces Internet computing and Web GIS and offers hands-on tutorials in customized applications using ArcGIS Server JavaScript API. Topics covered include Internet protocols and Web standards, Web services, and fundamental routines and functions in ArcGIS server development. Students will have the capability to develop customized ArcGIS server applications. Prerequisite: GEOS 3543 or equivalent.

**GEOS 4653. GIS Analysis and Modeling (Sp). 3 Hours.**

Unlike conventional GIS courses that focus on studying "where", this course will teach students to address beyond "where" using various GIS analysis and modeling techniques to explore "why" and "how". The course will provide theoretical and methodological reviews of the principles of cartographic modeling and multi-criteria decision-making.

This course is cross-listed with ANTH 4653.

**GEOS 4653H. Honors GIS Analysis and Modeling (Sp). 3 Hours.**

Unlike conventional GIS courses that focus on studying "where", this course will teach students to address beyond "where" using various GIS analysis and modeling techniques to explore "why" and "how". The course will provide theoretical and methodological reviews of the principles of cartographic modeling and multi-criteria decision-making.

This course is cross-listed with GEOS 4653, ANTH 4653.

**GEOS 4663. Low-Temperature Geochemistry of Natural Waters (Fa). 3 Hours.**

Covers the low-temperature geochemistry of waters and their associated minerals at Earth's surface. Examines the controls on the chemical composition of natural waters and the minerals precipitated from them. Topics covered will include water-rock interactions, pH, redox, the carbonate-water system, clay minerals and exchange, heavy metals, and a brief introduction to stable isotopes and geomicrobiology. Prerequisite: CHEM 1121L, CHEM 1123, GEOS 1113, and GEOS 1111L.

**GEOS 4673. Volcanology (Irregular). 3 Hours.**

A broad introduction to volcanic processes and their associated hazards. Emphasis will be placed on applying basic physical and chemical principles to understanding volcanic systems. Prerequisite: GEOS 2313.

This course is cross-listed with GEOS 5673.

**GEOS 4686. Geology Field Camp (Su). 6 Hours.**

A professional course taught off campus emphasizing occurrence, description, mapping, and interpretation of major rock types. May not be taken for graduate credit. Prerequisite: GEOS 3413 and GEOS 3514.

**GEOS 4693. Environmental Justice (Sp). 3 Hours.**

This course deals with the ethical, environmental, legal, economic, and social implications of society's treatment of the poor, the disenfranchised, and minorities who live in the less desirable, deteriorating neighborhoods, communities, and niches of our country. The class integrates science with philosophy, politics, economics, policy, and law, drawing on award-winning films, current news, and case studies.

This course is cross-listed with GEOS 4693H, SUST 4693.

**GEOS 4693H. Honors Environmental Justice (Sp). 3 Hours.**

This course deals with the ethical, environmental, legal, economic, and social implications of society's treatment of the poor, the disenfranchised, and minorities who live in the less desirable, deteriorating neighborhoods, communities, and niches of our country. The class integrates science with philosophy, politics, economics, policy, and law, drawing on award-winning films, current news, and case studies. This course is cross-listed with GEOS 4693, SUST 4693.

**GEOS 4783. Geography of Europe (Irregular). 3 Hours.**

Geographic regions of the area with emphasis on their present development. Prerequisite: Junior standing.

**GEOS 4793. Geospatial Unmanned Aircraft Systems (Fa). 3 Hours.**

Geospatial unmanned aircraft systems (UAS) are becoming key technologies in a number of disciplines. This course will introduce safe and legal operation of UAS in aerial photography, multispectral, thermal and LIDAR applications, geodetic control, photogrammetric and computer vision processing, and the creation of accurate 2D and 3D digital information products. Pre- or Corequisite: GEOS 4413 and GEOS 4593 or equivalent.

**GEOS 4793H. Honors Geospatial Unmanned Aircraft Systems (Fa). 3 Hours.**

Geospatial unmanned aircraft systems (UAS) are becoming key technologies in a number of disciplines. This course will introduce safe and legal operation of UAS in aerial photography, multispectral, thermal and LIDAR applications, geodetic control, photogrammetric and computer vision processing, and the creation of accurate 2D and 3D digital information products. Pre- or Corequisite: Honors standing, GEOS 4413 and GEOS 4593 or equivalent.

This course is equivalent to GEOS 4793.

**GEOS 481V. Cooperative Education Program (Sp, Su, Fa). 1-6 Hour.**

Credit for off-campus, compensated work experience related to geology arranged through the Cooperative Education Office and Department of Geology. May be repeated for degree credit.

**GEOS 4863. Quantitative Techniques in Geosciences (Sp). 3 Hours.**

An introduction to the application of standard quantitative and spatial statistical techniques to geoscientific analysis. Students will use both micro and large system computers in the course.

This course is cross-listed with ANTH 4863.

**GEOS 4873. Geological Data Analysis (Sp). 3 Hours.**

Quantitative methods and techniques for analysis and interpretation of geological data. Corequisite: Lab component. Prerequisite: MATH 2564 and GEOS 3514.

**GEOS 4924. Earth System History (ACTS Equivalency = PHSC 1104) (Sp). 4 Hours.**

Physical and biological events that form the history of the earth from its formation to the beginning of the historical era. Graduate enrollment only with departmental permission. Corequisite: Lab component. Prerequisite: GEOL 3514.

This course is equivalent to GEOL 4924.

**GEOS 4933. Ancient Forest Science and Sustainability (Sp). 3 Hours.**

Ancient forests preserve beautiful habitat with high ecological integrity. This course will examine the development, spatial distribution, and ongoing destruction of ancient forests worldwide, and how science can contribute to the understanding and sustainable management of these valuable resources.

**GEOS 4972H. Senior Honors Course I (Sp, Su, Fa). 2 Hours.**

Special honors research in geology. Two hours of credit each semester. Prerequisite: Junior honors.

**GEOS 4982H. Senior Honors Course II (Sp, Su, Fa). 2 Hours.**

Special honors research in geology. Two hours of credit each semester. Prerequisite: Junior honors.



**GEOS 5003. Seminar in Geography (Irregular). 3 Hours.**

Selected topics, the nature of which varies with the need. Prerequisite: Graduate standing. May be repeated for up to 3 hours of degree credit.

**GEOS 5011. Colloquium (Sp). 1 Hour.**

Weekly meetings of faculty, graduates, advanced students and guests to discuss research and trends in the field of geography. May be repeated for up to 2 hours of degree credit.

**GEOS 5023. Technical and Proposal Writing for the Geosciences (Sp). 3 Hours.**

Preparation of technical reports, research proposals, and manuscripts for publication in the area of geosciences.

**GEOS 5033. Advanced Vector Geographic Information Systems (Irregular). 3 Hours.**

Advanced vector operations and analysis. Topics will include topological analysis, network analysis, geocoding, conflation, implications of source and product map scale, map generation, error mapping, and cartographic production. Prerequisite: ((ANTH 4563 or ANTH 5563 (formerly ANTH 4563)) or ((GEOS 4583 or GEOS 5583 (formerly GEOS 4583)) or equivalent.

This course is cross-listed with ENDY 5033, ANTH 5043.

**GEOS 5043. Foundations of Geospatial Data Analysis (Sp, Fa). 3 Hours.**

Basic mathematical tools applied in geospatial technology, including trigonometry in mapping, linear algebra in remote sensing, optimization in spatial decision support, and graph theory in routing. Course develops the framework for spatial data analysis and decision support. Prerequisite: GEOS 5543.

**GEOS 5053. Quaternary Environments (Fa). 3 Hours.**

An interdisciplinary study of the Quaternary Period, including dating methods, deposits, soils, climates, tectonics, and human adaptation. Lecture 2 hours, laboratory 2 hours per week. Prerequisite: Graduate standing.

This course is cross-listed with ANTH 5053, ENDY 5053.

**GEOS 5073. Geospatial Technologies Computational Toolkit (Sp, Fa). 3 Hours.**

Basic computational tools and processes applied in geospatial software, related computer hardware components, systems and applications software, and spatial database fundamentals. Python, including SciPy and NumPy, geospatial implementations will be emphasized. No programming experience is required. Prerequisite: GEOS 5543.

**GEOS 5083. Geospatial Data Mining (Sp, Fa). 3 Hours.**

Basic tools for analyzing, summarizing and visualizing geospatial data. Exploratory data and spatial data analysis, probability distributions and application, single and multivariate analysis and hypothesis testing, and spatial smoothing and interpolation. Emphasis will be on problem solving in geospatial settings using the R statistical language. Prerequisite: GEOS 5043 and GEOS 5073 or equivalent.

**GEOS 5093. History and Philosophy of Geography (Even years, Sp). 3 Hours.**

This course familiarizes students with the history of geography, the contributions of geographers to scientific thought and theory, and research techniques that are used in geography. Emphasis is given to the integration of statistical and spatial analysis, and their applications in field research. The course includes short field-based projects in and around Northwest Arkansas.

**GEOS 510V. Special Problems in Physical Geosciences (Sp, Su, Fa). 1-6 Hour.**

Special problems in Geosciences. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

**GEOS 5113. Global Change (Fa). 3 Hours.**

Examines central issues of global change including natural and human induced climate change, air pollution, deforestation, desertification, wetland loss urbanization, and the biodiversity crisis. The U.S. Global Change Research Program is also examined.

This course is cross-listed with ENDY 5113.

**GEOS 5123. Stratigraphic Principles and Practice (Irregular). 3 Hours.**

Physical and biological characteristics of sedimentary environments and their correlation in time with emphasis on the local geologic section. Corequisite: Lab component. Prerequisite: GEOS 4223 or GEOS 5323 (formerly GEOS 4223).

**GEOS 5133. Radar Remote Sensing (Sp). 3 Hours.**

Introduction to radar remote sensing and its applications in geology, geography, archeology, engineering, and agriculture. Focuses on Synthetic Aperture Radar (SAR) and advanced techniques including radar stereo, polarimetry, and interferometry. Covers Interferometric SAR (InSAR) for mapping topography and modeling Earth's surface motions due to earthquakes, volcanic eruptions, landslides, and subsidence. Prerequisite: GEOS 3023 or equivalent.

**GEOS 5143. 3D Seismic Exploration (Sp). 3 Hours.**

(Formerly GEOS 4463.) Interpretation of 3D seismic data for geological structure, stratigraphy, and pore fluid variations with emphasis on hydrocarbon exploration. Credit will not be given for both GEOS 4463 and GEOS 5143. Prerequisite: GEOS 4433 or GEOS 5433 (formerly GEOS 4433).

**GEOS 5153. Environmental Site Assessment (Irregular). 3 Hours.**

Principles, problems, and methods related to conducting an environmental site assessment. An applied course covering field site assessment, regulatory documentation, and report preparation. Prerequisite: GEOS 4033 or GEOS 5263 (formerly 4033).

This course is cross-listed with ENDY 5153.

**GEOS 5163. Hydrogeologic Modeling (Irregular). 3 Hours.**

Topics include numerical simulation of ground water flow, solute transport, aqueous geochemistry, theoretical development of equations, hypothesis testing of conceptual models, limitations of specific methods, and error analysis. Emphasis on practical applications and problem solving. Prerequisite: GEOS 4033 or GEOS 5263 (formerly 4033) and computer literacy.

**GEOS 5173. Urban Geography (Irregular). 3 Hours.**

(Formerly GEOS 4073.) Areal patterns of modern urban regions and the focus shaping these patterns. Emphasis is placed on American urban areas and their evolution and functional areas. Field work. Graduate degree credit will not be given for both GEOS 4073 and GEOS 5173.

**GEOS 5183. Geography of the Middle East (Fa). 3 Hours.**

(Formerly GEOS 4043.) Physical and cultural landscapes, natural and cultural resources, art and architecture, land use, political history, OPEC, and current problems of North Africa and the Middle East region west of Afghanistan are discussed. Class participation, discussions, slides and films, and student presentations will round out the class. Graduate degree credit will not be given for both GEOS 4043 and GEOS 5183.

**GEOS 5196. Advanced Field Methods of Applied Hydrogeology (Su). 6 Hours.**

Applied field course emphasizing collection and interpretation of ground water data. Three hours may be applied toward an M.S. degree in geology. Prerequisite: GEOS 4033 or GEOS 5263 (formerly 4033).

**GEOS 520V. Special Problems in Human Geography (Sp, Su, Fa). 1-6 Hour.**

Special problems in human geography. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

**GEOS 5213. Principles of Remote Sensing (Fa). 3 Hours.**

(Formerly GEOS 4413.) Fundamental concepts of remote sensing of the environment. Optical, infrared, microwave, LIDAR, and in situ sensor systems are introduced. Remote sensing of vegetation, water, urban landscapes, soils, minerals, and geomorphology is discussed. The course includes laboratory exercises in GIS software and field spectroscopy. Graduate degree credit will not be given for both GEOS 4413 and GEOS 5213.

**GEOS 5223. Sedimentary Petrology (Fa). 3 Hours.**

Sediments and sedimentary rocks. Lecture 2 hours, laboratory 2 hours per week. Corequisite: Lab component. Prerequisite: GEOS 4223 or GEOS 5323 (formerly GEOS 4223).

**GEOS 5233. Geography of Religion & Sacrality (Irregular). 3 Hours.**

Explores the spatial nature of the World's major faiths and religious institutions, focusing on the distribution and origins of these religions. Examines the religious beliefs, rituals, architecture, demographics, and art in different societies, cultures, and countries. Considers the tenets and practices of what is sacred and/or spiritual, held in common by a group or community. Prerequisite: Graduate standing.

**GEOS 5243. Political Geography (Odd years, Fa). 3 Hours.**

(Formerly GEOS 4243.) Contemporary world political problems in their geographic context. Development of the principles of political geography with emphasis upon the problems of Eastern Europe, Africa, and Southeast Asia. Graduate degree credit will not be given for both GEOS 4243 and GEOS 5243.

**GEOS 5253. Geomorphology (Sp). 3 Hours.**

(Formerly GEOS 4053.) Mechanics of landform development. Lecture 2 hours, laboratory 3 hours per week. Several local field trips are required during the semester. Graduate degree credit will not be given for both GEOS 4053 and GEOS 5253.

**GEOS 5263. Hydrogeology (Sp). 3 Hours.**

(Formerly GEOS 4033.) Occurrence, movement, and interaction of water with geologic and cultural features. Lecture 3 hours per week. Graduate degree credit will not be given for both GEOS 4033 and GEOS 5263. Corequisite: Lab component. Prerequisite: MATH 2043 or MATH 2554, and GEOS 3514.

**GEOS 5273. Principles of Geochemistry (Fa). 3 Hours.**

(Formerly GEOS 4063.) Introduction to fundamental principles of geochemistry from historic development to modern concepts. Graduate degree credit will not be given for both GEOS 4063 and GEOS 5273. Corequisite: Lab component. Prerequisite: CHEM 1121L, CHEM 1123 and GEOS 2313.

**GEOS 5283. Economic Geology (Irregular). 3 Hours.**

(Formerly GEOS 4083.) Introduction to mineral deposits used as economic resources. Covers basic geology and geochemistry of mineral deposit formations and the formation of major classes of deposits. Examines the relationship between the distribution of ores, oil, gas, coal, and Plate Tectonics. Explores environmental issues associated with the extraction of earth resources. Graduate degree credit will not be given for both GEOS 4083 and GEOS 5283. Prerequisite: GEOS 2313.

**GEOS 5293. Introduction to Global Positioning Systems and Global Navigation Satellite Systems (Fa). 3 Hours.**

(Formerly GEOS 4593.) Fundamentals of navigation, mapping, and high-precision positioning using the Navstar Global Positioning System. Topics include datum definition and transformation, map projections, autonomous and differential positioning using both code and carrier processing, and analysis of errors. Graduate degree credit will not be given for both GEOS 4593 and GEOS 5293. This course is cross-listed with ANTH 5593.

**GEOS 530V. Special Problems in Regional Geography (Sp, Su, Fa). 1-6 Hour.**

Special problems in regional geography. Prerequisite: Graduate standing.

**GEOS 5313. Planetary Atmospheres (Irregular). 3 Hours.**

Origins of planetary atmospheres, structures of atmospheres, climate evolution, dynamics of atmospheres, levels in the atmosphere, the upper atmosphere, escape of atmospheres, comparative planetology of atmospheres.

**GEOS 5323. Stratigraphy and Sedimentation (Fa). 3 Hours.**

(Formerly GEOS 4223.) Introductory investigation of stratigraphic and sedimentologic factors important to the study of sedimentary rocks. Lecture 2 hours, laboratory 3 hours per week. A required weekend, two-day field trip will be conducted during the semester. Graduate degree credit will not be given for both GEOS 4223 and GEOS 5323. Corequisite: Lab component. Prerequisite: GEOS 3413.

**GEOS 5333. Research Methods and Materials in Geography (Odd years, Fa). 3 Hours.**

Geographical research and the preparation of research papers. Prerequisite: Graduate standing.

**GEOS 534V. Internship in Physical Geography (Sp, Su, Fa). 3-6 Hour.**

(Formerly GEOS 430V.) Supervised experience in municipal, county, state or private natural resource management agency, or any other such organization approved by instructor. Graduate degree credit will not be given for both GEOS 430V and GEOS 534V.

**GEOS 5353. Meteorology (Fa). 3 Hours.**

(Formerly GEOS 4353.) Examination of the atmospheric processes that result in multifarious weather systems. Offered as physical science. Graduate degree credit will not be given for both GEOS 4353 and GEOS 5353.

**GEOS 5363. Climatology (Sp). 3 Hours.**

(Formerly GEOS 4363.) Fundamentals of topical climatology followed by a study of regional climatology. Offered as physical science. Graduate degree credit will not be given for both GEOS 4363 and GEOS 5363.

**GEOS 537V. Geology Field Trip (Sp). 1-2 Hour.**

(Formerly GEOS 437V.) Camping field trip to areas of geologic interest, usually conducted during Spring Break. Graduate degree credit will not be given for both GEOS 437V and GEOS 537V. Prerequisite: GEOS 3313. May be repeated for up to 4 hours of degree credit.

**GEOS 5383. Hazard & Disaster Assessment, Mitigation, Risk & Policy (Sp). 3 Hours.**

(Formerly GEOS 4383.) Comprehensive introduction to interdisciplinary approaches to natural and environmental hazards and risk. Hazards and disaster assessment, mitigation, and policy are the focus of the class. Graduate degree credit will not be given for both GEOS 4383 and GEOS 5383. May be repeated for up to 6 hours of degree credit.

**GEOS 5403. American Public Lands and Policy (Irregular). 3 Hours.**

The course examines the role of American federal public lands in 19th-21st century geography, history, policy, and art. It investigates the growth of conservation, preservation, and management movements in the US by looking at America's national parks, forests, dams, wildlife refuges, wilderness areas, managed and agricultural lands. Prerequisite: Graduate standing.

**GEOS 5413. Planetary Geology (Irregular). 3 Hours.**

Exploration of the solar system, geology and stratigraphy, meteorite impacts, planetary surfaces, planetary crusts, basaltic volcanism, planetary interiors, chemical composition of the planets, origin and evolution of the Moon and planets.

**GEOS 5423. Remote Sensing of Natural Resources (Even years, Sp). 3 Hours.**

Introductory digital image processing of remotely sensed data. Topics include data collection, laboratory design, scientific visualization, radiometric and geometric correction, enhancement, pattern recognition, artificial intelligence, and change detection in natural resource remote sensing. GIS-based exercises and a course project are included. Prerequisite: GEOS 4413 or GEOS 5213.

**GEOS 5433. Geophysics (Irregular). 3 Hours.**

(Formerly GEOS 4433.) Derivation from physical principles, of the geophysical methods for mapping the Earth. Computational methods of converting gravity, magnetic, radiometric, electrical, and seismic data into geologic information. Lecture 3 hours, laboratory 2 hours per week. Graduate degree credit will not be given for both GEOS 4433 and GEOS 5433. Corequisite: Lab component. Prerequisite: MATH 2564 and PHYS 2033 and PHYS 2031L and GEOS 3514.

**GEOS 5443. The Solid Earth (Irregular). 3 Hours.**

Modern views for the origin of the solid Earth and its structure, composition, and evolution through geologic time. Topics will include examination of relevant geophysical and geochemical constraints used to develop global models for the Earth. Prerequisite: GEOS 3313, MATH 2564, CHEM 1123, PHYS 2074 or instructor consent.

This course is cross-listed with GEOS 4443.

**GEOS 5453. Introduction to Raster GIS (Fa). 3 Hours.**

(Formerly GEOS 4553.) Theory, data structure, algorithms, and techniques behind raster-based geographical information systems. Through laboratory exercises and lectures multidisciplinary applications are examined in database creation, remotely sensed data handling, elevation models, and resource models using boolean, map algebra, and other methods. Graduate degree credit will not be given for both GEOS 4553 and GEOS 5453.

This course is cross-listed with ANTH 5553.

**GEOS 5473. Applied Climatology (Fa). 3 Hours.**

Applied climatology involves the use of climatic data to solve a variety of social, economic and environmental problems, such as for clients in agriculture, water and energy management. The basic purpose of applied climatology is to help society, at all scales and levels, to achieve a better adjustment to the climatic environment.

**GEOS 5483. Severe Weather (Sp). 3 Hours.**

(Formerly GEOS 4483.) Focuses on the formation and impact of weather phenomena such as blizzards, floods, tornadoes, thunderstorms, hurricanes and droughts. Covers the mechanisms and physics that control severe weather, advanced terminology, physical concepts and scientific methods used in meteorology, and the analysis and interpretation of meteorological data. Graduate degree credit will not be given for both GEOS 4483 and GEOS 5483.

**GEOS 550V. Internship in GIS & Cartography (Sp, Su). 3-6 Hour.**

(Formerly GEOS 440V.) Supervised experience in GIS and/or cartographic applications with municipal, county, state, or private enterprises. Graduate degree credit will not be given for both GEOS 440V and GEOS 550V. May be repeated for up to 6 hours of degree credit.

**GEOS 5513. Introduction to GIS Programming (Fa). 3 Hours.**

This course introduces fundamentals of GIS software engineering and offers hands-on tutorials in customized applications using Arc GIS through programming ArcObjects in VBA/VA.net environment. Topics covered include ArcObjects, different programming syntax and styles, and fundamental routines and functions in ArcGIS. After completing the course, students will have the capability develop customized ArcGIS applications.

**GEOS 5523. Cartographic Design & Production (Sp). 3 Hours.**

(Formerly GEOS 4523.) This course addresses advanced cartographic concepts (i.e. visual hierarchy, aesthetics, image cognition) and production techniques as they relate to computer-assisted mapping. Students produce a variety of maps using Adobe Illustrator (CS 4-6) software to build a map portfolio. Field trips may be required. Graduate degree credit will not be given for both GEOS 4523 and GEOS 5523.

**GEOS 5533. Introduction to Petroleum Geophysics (Fa). 3 Hours.**

(Formerly GEOS 4533.) Introduction to seismic wave propagation and petroleum seismology with particular emphasis on seismic events, elastic waves, and seismic survey design. Credit will not be given for both GEOS 4533 and GEOS 5533. Prerequisite: MATH 2564, PHYS 2033, and GEOL 3514 or consent of instructor.

**GEOS 5543. Geospatial Applications and Information Science (Sp, Fa). 3 Hours.**

An introduction to the methods and theory underlying the full range of geographic information science and collateral areas - including GNSS, remote sensing, cadastral, spatial demographics and others.

**GEOS 5553. Spatial Analysis Using ArcGIS (Sp, Fa). 3 Hours.**

Applications of analysis of spatial data using ArcGIS tools in map design, on-line mapping, creating geodatabases, accessing geospatial data, geo-processing, digitizing, geocoding, spatial analysis including basic spatial statistics, analysis of spatial distributions and patterning and 3D application using ArcGIS 3D Analyst. Prerequisite: GEOS 3543 or GEOS 5543.

**GEOS 5563. Tectonics (Fa). 3 Hours.**

Development of ramifications of the plate tectonics theory. Analysis of the evolution of mountain belts. Lecture 3 hours per week. Prerequisite: GEOS 3514.

**GEOS 5573. Advanced Cartographic Techniques & Production (Irregular). 3 Hours.**

Covers advanced production and techniques in cartography, including animation, geospatial visualization, pochade, and advanced visualization. Emphasizes client relationships in creating and producing cartographic materials. Prerequisite: GEOS 4523 or GEOS 5523.

**GEOS 5583. Vector GIS (Sp). 3 Hours.**

(Formerly GEOS 4583.) Introduction to geographic information systems (GIS) applications in marketing, transportation, real estate, demographics, urban and regional planning, and related areas. Lectures focus on development of principles, paralleled by workstation-based laboratory exercises using mainstream GIS software and relational databases. Graduate degree credit will not be given for both GEOS 4583 and GEOS 5583.

This course is cross-listed with ANTH 5563.

**GEOS 5593. Introduction to Geodatabases (Sp, Fa). 3 Hours.**

Fundamental concepts and applications of geospatial databases. Schema development and spatial data models for geodata. Spatial and attribute query and optimization, properties and structures of relational and object-oriented geodatabases. Spatial extensions of SQL, spatial indexing, measurement, and geometry. Course will use PostGIS, ESRI File Geodatabases, and MS-SQL. Prerequisite: GEOS 3543 and GEOS 3103 or equivalent.

**GEOS 560V. Graduate Special Problems (Sp, Su, Fa). 2-6 Hour.**

Library, laboratory, or field research in different phases of geology. May be repeated for up to 4 hours of degree credit.

**GEOS 5643. Introduction to Internet GIS (Sp). 3 Hours.**

This course introduces Internet computing and Web GIS and offers hands-on tutorials in customized applications using ArcGIS Server JavaScript API. Topics covered include Internet protocols and Web standards, Web services, and fundamental routines and functions in Arc GIS server development. Students will have the capability to develop customized ArcGIS server applications. Prerequisite: GEOS 3543 or equivalent.

**GEOS 5653. GIS Analysis and Modeling (Sp). 3 Hours.**

(Formerly GEOS 4653.) Unlike conventional GIS courses that focus on studying "where", this course will teach students to address beyond "where" using various GIS analysis and modeling techniques to explore "why" and "how". The course will provide theoretical and methodological reviews of the principles of cartographic modeling and multi-criteria decision-making. Graduate degree credit will not be given for both GEOS 4653 and GEOS 5653.

This course is cross-listed with ANTH 5653, ENDY 5043.

**GEOS 5663. Low-Temperature Geochemistry of Natural Waters (Fa). 3 Hours.**

(Formerly GEOS 4663.) Covers the low-temperature geochemistry of waters and their associated minerals at Earth's surface. Examines the controls on the chemical composition of natural waters and the minerals precipitated from them. Topics covered will include water-rock interactions, pH, redox, the carbonate-water system, clay minerals and exchange, heavy metals, and a brief introduction to stable isotopes and geomicrobiology. Credit will not be given for both GEOS 4663 and GEOS 5663. Prerequisite: CHEM 1121L, CHEM 1123, GEOS 1113, and GEOS 1111L.

**GEOS 5673. Volcanology (Irregular). 3 Hours.**

A broad introduction to volcanic processes and their associated hazards. Emphasis will be placed on applying basic physical and chemical principles to understanding volcanic systems. Prerequisite: GEOS 2313.

This course is cross-listed with GEOS 4673.

**GEOS 5693. Environmental Justice (Sp). 3 Hours.**

(Formerly GEOS 4693.) This course deals with the ethical, environmental, legal, economic, and social implications of society's treatment of the poor, the disenfranchised, and minorities who live in the less desirable, deteriorating neighborhoods, communities, and niches of our country. The class integrates science with philosophy, politics, economics, policy, and law, drawing on award-winning films, current news, and case studies. Credit will not be given for both GEOS 4693 and GEOS 5693.

**GEOS 5713. Geology of Our National Parks (Fa). 3 Hours.**

(Formerly GEOS 4563.) This course examines the underlying geology responsible for selected parks, and explores the interplay of geology, biology, climate, topography, and humans to evaluate the value of the parks, and to anticipate the problems they will face in the near and long-term. Credit will not be given for both GEOS 4563 and GEOS 5713. Prerequisite: GEOS 1113.

**GEOS 5743. Petroleum Geology (Fa). 3 Hours.**

(Formerly GEOS 4253.) Distribution and origin of petroleum. Lecture 2 hours, laboratory 2 hours per week. Graduate degree credit will not be given for both GEOS 4253 and GEOS 5743. Corequisite: Lab component. Prerequisite: Admission to the Geology graduate program.

**GEOS 5753. Karst Hydrogeology (Irregular). 3 Hours.**

(Formerly GEOS 4153.) Assessment of ground water resources in carbonate rock terrains; relation of ground water and surface water hydrology to karst; quantification of extreme variability in karst environments; data collection rationale. Field trips required. Graduate degree credit will not be given for both GEOS 4153 and GEOS 5753. Prerequisite: GEOS 4033 or GEOS 5263 (formerly GEOS 4033).

**GEOS 5783. Geography of Europe (Irregular). 3 Hours.**

(Formerly GEOS 4783.) Geographic regions of the area with emphasis on their present development. Graduate degree credit will not be given for both GEOS 4783 and GEOS 5783.

**GEOS 5793. Geospatial Unmanned Aircraft Systems (Fa). 3 Hours.**

Geospatial unmanned aircraft systems (UAS) are becoming key technologies in a number of disciplines. This course will introduce safe and legal operation of UAS in aerial photography, multispectral, thermal and LIDAR applications, geodetic control, photogrammetric and computer vision processing, and the creation of accurate 2D and 3D digital information products. Pre- or Corequisite: (GEOS 4413 or GEOS 5213 (formerly GEOS 4413)) and (GEOS 4593 or GEOS 5293 (formerly GEOS 4593)) or equivalent.

**GEOS 5853. Environmental Isotope Geochemistry (Sp). 3 Hours.**

Introduction to principles of isotope fractionation and distribution in geologic environments, isotopic analytical methods, and extraction of isotope samples; application of isotopes in characterization of geologic processes and interaction with hydrologic, surficial, and biologic attenuation, paleothermometry soil, and biogeochemical processes. May be repeated for up to 3 hours of degree credit. This course is cross-listed with ENDY 5853.

**GEOS 5863. Quantitative Techniques in Geosciences (Sp). 3 Hours.**

(Formerly GEOS 4863.) An introduction to the application of standard quantitative and spatial statistical techniques to geoscientific analysis. Students will use both micro and large system computers in the course. Graduate degree credit will not be given for both GEOS 4863 and GEOS 5863. This course is cross-listed with ANTH 5863.

**GEOS 5873. Geological Data Analysis (Sp). 3 Hours.**

(Formerly GEOS 4873.) Quantitative methods and techniques for analysis and interpretation of geological data. Credit will not be given for both GEOS 4873 and GEOS 5873. Corequisite: Lab component. Prerequisite: MATH 2564 and GEOS 3514.

**GEOS 5924. Earth System History (ACTS Equivalency = PHSC 1104) (Sp). 4 Hours.**

(Formerly GEOS 4924.) Physical and biological events that form the history of the earth from its formation to the beginning of the historical era. Credit will not be given for both GEOS 4924 and GEOS 5924. Graduate enrollment only with departmental permission. Corequisite: Lab component. Prerequisite: GEOS 3514.

**GEOS 5933. Ancient Forest Science and Sustainability (Sp). 3 Hours.**

Ancient forests preserve beautiful habitat with high ecological integrity. This course will examine the development, spatial distribution, and ongoing destruction of ancient forests worldwide, and how science can contribute to the understanding and sustainable management of these valuable resources.

**GEOS 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Master's thesis. Prerequisite: Graduate standing. May be repeated for degree credit.

**GEOS 6013. Seminar in Geoinformatics (Sp). 3 Hours.**

Geographic information science and technology research topics of particular interest to the graduate student class. May be repeated for up to 9 hours of degree credit.

**GEOS 700V. Doctoral Dissertation (Sp, Su, Fa). 1-6 Hour.**

Dissertation research. Prerequisite: Graduate standing and Ph.D. candidacy. May be repeated for degree credit.

## German (GERM) Courses

**GERM 1003. Elementary German I (ACTS Equivalency = GERM 1013) (Sp, Su, Fa). 3 Hours.**

**GERM 1013. Elementary German II (ACTS Equivalency = GERM 1023) (Sp, Su, Fa). 3 Hours.**

Elementary courses stress correct pronunciation, aural comprehension, and simple speaking ability, and lead to active mastery of basic grammar and limited reading ability.

**GERM 2003. Intermediate German I (ACTS Equivalency = GERM 2013) (Sp, Su, Fa). 3 Hours.**

Intermediate courses lead to greater facility in spoken language and to more advanced reading skills.

**GERM 2013. Intermediate German II (ACTS Equivalency = GERM 2023) (Sp, Su, Fa). 3 Hours.**

Continued development of basic speaking comprehension and writing skills and intensive development of reading skills.

**GERM 3003. Advanced German I (Fa). 3 Hours.**

Development of reading, writing, listening, and speaking skills. Some grammar review and translation exercises. Emphasis on vocabulary acquisition and the correct use of idiomatic expressions. Prerequisite: GERM 2013.

**GERM 3013. Introduction to Literature (Fa). 3 Hours.**

Development of reading skills and introduction to literary analysis. Prerequisite: GERM 2013 or equivalent.

**GERM 3033. Conversation (Sp). 3 Hours.**

Three hours per week of guided conversation practice for the post-intermediate student. Prerequisite: GERM 2013 or instructor consent.

**GERM 3063. Ph.D. Reading Requirement I (Su). 3 Hours.****GERM 399VH. Honors German Course (Sp, Fa). 1-6 Hour.**

Prerequisite: Junior standing. May be repeated for up to 12 hours of degree credit.

**GERM 4003. Advanced German II (Sp). 3 Hours.**

Further development of reading, writing, listening, and speaking skills. Some grammar review and translation exercises. Emphasis on vocabulary acquisition and the correct use of idiomatic expressions. Prerequisite: GERM 2013.

**GERM 4013. Germany and the Holocaust: The Significance of the Holocaust in Differentiated Contexts (Irregular). 3 Hours.**

Taught in English. Topics covering the role of the Holocaust in German history, culture, art, language and German Studies. Equal emphasis will be placed on historical competence and philosophical/theoretical inquiry, addressed from a variety of media and primary and secondary sources. May be repeated for up to 6 hours of degree credit.

**GERM 4043. German Cinema (Irregular). 3 Hours.**

Presents a range of German films in cultural-historical context; vocabulary and structures for discussing film, film history, and film theory in German. Prerequisite: GERM 3003.

**GERM 4123. The German Novella (Irregular). 3 Hours.**

An intensive study of the novella as a genre from its origin to the present. Prerequisite: GERM 3013.

**GERM 4133. The German Drama (Irregular). 3 Hours.**

A study of the development of the forms and themes of the German drama from the middle ages to the present. Prerequisite: GERM 3013.

**GERM 4143. German Lyric Poetry (Irregular). 3 Hours.**

A study of the forms and themes of German lyric poetry from the middle ages to the present. Prerequisite: GERM 3013.

This course is cross-listed with GERM 5143.

**GERM 4213. German Civilization (Irregular). 3 Hours.**

German civilization. Prerequisite: GERM 2013 or equivalent.

**GERM 4333. Business German I (Fa). 3 Hours.**

Introduces students to the language of business German and provides insights into business practices in the German-speaking countries. Covers aspects of business geography, the European Union, transportation/shipping, business correspondence, resume writing and job application. Open to all majors; no business prerequisites. Prerequisite: GERM 2013. May be repeated for up to 6 hours of degree credit.

**GERM 470V. Special Topics (Irregular). 1-3 Hour.**

May be offered in a topic not specifically covered by courses otherwise listed. May be repeated for up to 6 hours of degree credit.

**GERM 475V. Special Investigations (Irregular). 1-6 Hour.**

May be repeated for degree credit.

**GERM 5123. The German Novella (Irregular). 3 Hours.**

An intensive study of the novella as a genre from its origin to the present. Prerequisite: GERM 3013.

**GERM 5133. The German Drama (Irregular). 3 Hours.**

A study of the development of the forms and themes of the German drama from the middle ages to the present. Prerequisite: GERM 3013.

**GERM 5143. German Lyric Poetry (Irregular). 3 Hours.**

A study of the forms and themes of German lyric poetry from the middle ages to the present. Prerequisite: GERM 3013.

This course is cross-listed with GERM 4143.

**GERM 5223. Early German Literature: Middle Ages to the Enlightenment (Irregular). 3 Hours.****GERM 5273. German Literature: Enlightenment, Storm and Stress, and Classicism (Irregular). 3 Hours.****GERM 5343. Early Modern German Literature: Late 19th and Early 20th Century (Irregular). 3 Hours.****GERM 5363. German Literature after 1945 (Irregular). 3 Hours.****GERM 5703. Special Topics (Irregular). 3 Hours.**

May be offered in a subject not specifically covered by the courses otherwise listed. May be repeated for up to 6 hours of degree credit.

## Gerontology (GERO)

### Courses

**GERO 4443. Gerontology (Sp). 3 Hours.**

Physiological and psychological development of the aging individual, extended family relations, service networks for the elderly, and retirement activities. Some attention to housing and care needs of persons in advanced years. Lecture 3 hours per week. Seminar. Prerequisite: HESC 1403 (or HESC 2413 or PSYC 2003 or SCWK 2133) and junior standing.

This course is cross-listed with HESC 4443.

**GERO 5023. Critical Issues in Aging (Irregular). 3 Hours.**

Consideration of current issues of aging not covered in depth in other courses.

Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

**GERO 5443. Gerontology (Sp). 3 Hours.**

Examines physiological and psychological development of the aging individual, extended family relationships, service networks for older adults, and retirement activities. Some attention given to housing and care needs of persons in advanced years. Lecture 3 hours per week, seminar format. Prerequisite: Graduate standing.

This course is cross-listed with HESC 5443.

## Graduate Education Courses (GRSD)

### Courses

**GRSD 400V. Research Experience Undergraduate Internship (Su). 1-6 Hour.**

Internship for students participating in an undergraduate research experience. May be repeated for up to 12 hours of degree credit.

**GRSD 5003. The Professoriate: Teaching, Learning and Assessment (Sp). 3 Hours.**

Designed to introduce the future academic professional to the expectations of the faculty teaching role in higher education. Topics include techniques of effective teaching and learning, dealing with a variety of institutional expectations, course management issues, and using models of effective teaching across a broad spectrum of class sizes and levels.

**GRSD 5013. Field Experience in Gerontology (Irregular). 3 Hours.**

Supervised research/practical experience in field setting. Prerequisite: GRSD 5003. May be repeated for up to 6 hours of degree credit.

**GRSD 502V. Special Topics in Preparing Future Faculty (Irregular). 1-3 Hour.**

Seminar on selected topics for those anticipating a career teaching in higher education. May be repeated for up to 6 hours of degree credit.

**GRSD 5033. The Professoriate: Research and Service (Fa). 3 Hours.**

Designed to complement GRSD 5003 by focusing on topics of interest to future academic professionals beyond those related to instruction. Topics include developing a research statement, strategies for securing an academic position the general nature of employment and service expectations in higher education, research ethics, and funding issues, including grant proposal writing.

**GRSD 5041. Graduate Enrollment (Sp, Su, Fa). 1 Hour.**

This course allows a degree-seeking graduate student to continue as an active graduate student. Students should enroll in this course only when they are not enrolled in credit-bearing academic courses. This course cannot be counted for degree credit. May be repeated for degree credit.

## Greek (GREK) Courses

**GREK 1003. Elementary Ancient Greek I (Fa). 3 Hours.**

The rudiments of classical Greek, with concentration on grammar, vocabulary, and syntax. Short selections from ancient authors lead to basic reading ability.

**GREK 1013. Elementary Ancient Greek II (Sp). 3 Hours.**

A continuation of the rudiments of classical Greek, with concentration on grammar, vocabulary, and syntax. Short selection from ancient authors lead to basic reading ability.

**GREK 1203. Beginning Modern Greek I (Fa). 3 Hours.**

Conversational language of Greece today. Stresses correct pronunciation, aural comprehension, and simple speaking ability. Leads to active mastery of basic grammar and limited reading ability.

**GREK 1213. Beginning Modern Greek II (Sp). 3 Hours.**

A continuation of GREK 1203. Stresses correct pronunciation, aural comprehension, and simple speaking ability. Leads to active mastery of basic grammar and limited reading ability.

**GREK 2003. Intermediate Ancient Greek I (Fa). 3 Hours.**

Ancient Greek grammar and syntax, with readings in Greek prose. Prerequisite: GREK 1013 or equivalent.

**GREK 2013. Homer (Sp). 3 Hours.**

Selections from the Iliad or the Odyssey: a survey of Greek epic poetry. Prerequisite: GREK 2003 or equivalent.

**GREK 2203. Intermediate Modern Greek I (Fa). 3 Hours.**

Continuation of Beginning Modern Greek. Prerequisite: GREK 1203 and GREK 1213, or equivalent.

**GREK 2213. Intermediate Modern Greek II (Sp). 3 Hours.**

Continuation of Intermediate Modern Greek I. Prerequisite: GREK 2203 or equivalent.

**GREK 4003. Greek Lyric Poetry (Irregular). 3 Hours.**

Readings from selected Greek lyric poems, to be chosen from several appropriate authors from the 7th through the 5th centuries BCE: Archilochus, Hipponax, Sappho, Alcaeus, Tyrtaeus, Mimnermus, Semonides, Solon, Xenophanes, Theognis, Pindar, Bacchylides. Prerequisite: GREK 2013 or equivalent.

**GREK 4013. Greek Epic Poetry (Irregular). 3 Hours.**

Study of the primary works of Greek hexameter poetry, including Homer, Hesiod, and/or the Homeric Hymns, with special attention to issues of oral composition and performance. Prerequisite: GREK 2013.

**GREK 4023. Greek Philosophy (Irregular). 3 Hours.**

Study of representative works of Greek philosophy, including those of the Pre-Socratics, Plato, and/or Aristotle. Prerequisite: GREK 2013 or equivalent.

**GREK 4033. Herodotus or Thucydides (Irregular). 3 Hours.**

Readings of Herodotus, Book VII, and Thucydides, Book VI; collateral readings on the Persian and Peloponnesian Wars. Prerequisite: GREK 2013 or equivalent.

**GREK 4043. Greek Drama (Irregular). 3 Hours.**

Readings of 2 tragedies and one comedy; a study of the Greek theatre. Prerequisite: GREK 2013 or equivalent.

**GREK 4053. Greek Syntax and Composition (Irregular). 3 Hours.**

Greek syntax and composition. Prerequisite: GREK 2013 or equivalent.

**GREK 4063. Hellenistic Poetry (Irregular). 3 Hours.**

Selections from significant post-classical authors, including Callimachus, Theocritus, Bion, Moschus, Herondas, Apollonios of Rhodes, and/or poets of the Greek Anthology. Special attention to archaic and classical influences, contemporary Hellenistic culture, and Roman responses. Prerequisite: GREK 2013.

**GREK 4073. Ancient Greek Novel (Irregular). 3 Hours.**

Study of the development of the Greek novel including the works of Lucian, Longus, Heliodorus, and/or Achilles Tatius. Prerequisite: GREK 2013 or equivalent.

**GREK 4083. Greek Epigraphy (Irregular). 3 Hours.**

Study of inscriptions, especially Attic, in their historical and social contexts, from the 8th century BCE to the Hellenistic/Roman period. Training in epigraphical conventions and symbols. Prerequisite: GREK 2013 or equivalent.

**GREK 4093. Biblical and Patristic Greek (Irregular). 3 Hours.**

Selected readings from appropriate texts, varying by semester, including the Septuagint, New Testament, Apostolic Fathers, and other patristic literature to the 5th century CE. Reading and discussion of selected texts in major genres. Prerequisite: GREK 2013 or equivalent.

**GREK 4103. Greek Oratory (Irregular). 3 Hours.**

Readings from selected speeches, to be chosen from one or more appropriate authors: Lysias, Antiphon, Demosthenes, Isocrates, Andocides. Study of sophism and rhetoric of Athens in the 5th and 4th centuries BCE. Prerequisite: GREK 2013 or equivalent.

**GREK 475V. Special Investigations (Sp, Su, Fa). 1-6 Hour.**

May be repeated for degree credit.

**GREK 575V. Special Investigations (Irregular). 1-6 Hour.**

May be repeated for up to 12 hours of degree credit.

## Health, Human Performance and Recreation (HHPR) Courses

**HHPR 5353. Research in Health, Human Performance and Recreation (Sp, Su, Fa). 3 Hours.**

Methods and techniques of research in health, human performance and recreation including an analysis of examples of their use and practice in their application to problems of interest to the student.

**HHPR 560V. Workshop (Irregular). 1-6 Hour.****HHPR 6233. Management in HHPR (Irregular). 3 Hours.**

Deals with principles, procedures, relationships, problems, and current practices in the supervision of health education and kinesiology. Includes management of facilities, programs, personnel, and processes.

**HHPR 6333. Measurement in HHPR (Odd years, Fa). 3 Hours.**

Competencies for analysis and application of evaluation and measurement in HHPR.

**HHPR 689V. Directed Research (Sp, Su, Fa). 1-6 Hour.**

Laboratory investigations, in basic and applied research.

**HHPR 699V. Seminar (Irregular). 1-3 Hour.**

May be repeated for up to 3 hours of degree credit.

**HHPR 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Doctoral Dissertation. Prerequisite: Candidacy. May be repeated for degree credit.

# Higher Education (HIED) Courses

## **HIED 5003. Overview-American Higher Education (Fa). 3 Hours.**

A basic course in the study of higher education open to all students seeking careers in colleges and universities. Serves as an introduction to the programs, problems, issues, and trends in higher education.

## **HIED 5033. Student Affairs in Higher Education (Fa). 3 Hours.**

Study of origins, functions, and policies in student personnel services in contemporary 2- and 4-year colleges and universities with emphasis on the student and student development.

## **HIED 5043. Student Development in Higher Education (Sp). 3 Hours.**

Provides those who work or plan to work in post secondary educational institutions with an understanding of the student population in contemporary colleges and universities.

## **HIED 504V. Practicum in Higher Education (Sp, Su, Fa). 1-6 Hour.**

Students are assigned to a department or agency within or outside the university for professional experience under the joint supervision of on-site personnel and university faculty. Periodic meetings are scheduled for evaluation, discussion, and examination of techniques.

## **HIED 5053. The Community College (Irregular). 3 Hours.**

An overview of the community college. Topics include the history and philosophy of the community college movement, students, curriculum, state and local campus governance, teaching, student personnel work, finance and issues, problems, and trends.

## **HIED 5063. Diversity in Higher Education (Irregular). 3 Hours.**

Broadly explores how sociocultural contexts influence diversity at colleges and universities. Focuses on the responsibilities of higher education leaders to be multiculturally competent professionals who foster inclusive practices for diverse student populations.

## **HIED 5073. Management of Higher Education Institutions (Su, Fa). 3 Hours.**

Principles and concepts of management and their application in college and university settings.

## **HIED 5083. History and Philosophy of Higher Education (Sp). 3 Hours.**

An examination of the history and development of higher education including the study of the philosophy, objectives, and functions of various types of institutions.

## **HIED 5093. Research in Higher Education and Student Affairs (Sp, Su, Fa). 3 Hours.**

This course provides master's students an overview of research and literature applicable to the discipline; teaches students how to understand academic literature and use empirical evidence to inform practices and policies at colleges and universities. Prerequisite: MEd students in the Higher Education Program.

## **HIED 5103. Higher Education in International Contexts (Irregular). 3 Hours.**

Explores various systems of higher education around the world. Equips students with the knowledge and skills to work in the increasingly internationalized field of higher education.

## **HIED 5643. Reflective Practice in Higher Education and Student Affairs (Sp, Su, Fa). 3 Hours.**

Provides students an opportunity to work in a functional area of higher education, reflect on how their experiences inform their career goals as higher education professionals, and learn job search strategies in higher education. May be repeated for up to 6 hours of degree credit.

## **HIED 574V. Internship (Sp, Su, Fa). 1-3 Hour.**

Supervised field experiences in student personnel services, college administration, academic advising, institutional research, development, or other areas of college and university work.

## **HIED 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Master's Thesis. May be repeated for degree credit.

## **HIED 6013. The Professoriate: Problems and Issues (Irregular). 3 Hours.**

An examination of the vital issues and trends affecting college faculty personnel with emphasis upon institutional practices and policies.

## **HIED 6023. Introduction to the Study of Higher Education (Irregular). 3 Hours.**

A requirement for all new doctoral and specialist students. Familiarization with writing requirements, library search procedures, library resources, and program requirements. Prerequisite: Admission to Higher Education Ed.D program.

## **HIED 605V. Independent Study (Sp, Su, Fa). 1-6 Hour.**

Provides students with an opportunity to pursue special study in higher education.

## **HIED 6083. Management Skills for Effective Leadership (Irregular). 3 Hours.**

Development of management skills that enhance leadership includes understanding yourself, managing yourself, team building, personnel selection, group and individual decision-making, problem solving, managing conflict, developing valid performance appraisal systems, conducting performance appraisal interview, and other topics of current interest. Prerequisite: Doctoral students in Higher Education or permission of the instructor.

## **HIED 6093. Leading Change (Irregular). 3 Hours.**

An in-depth examination of leadership, change, and culture in postsecondary education.

## **HIED 6183. Organization Development and Change in Higher Education (Irregular). 3 Hours.**

An examination of the theory and practice of organization development as it relates to planned change in colleges and universities.

## **HIED 6323. Design and Evaluation of College Teaching (Irregular). 3 Hours.**

Theory and practice of effective college teaching. Emphasis is placed on preparation and evaluation of instruction.

## **HIED 6333. Curriculum Design in Higher Education (Irregular). 3 Hours.**

Types of undergraduate curricula and their supporting philosophies; approaches to curricula planning and assessment; curricular reforms; and factors influencing curricular policy making.

## **HIED 6343. Strategies for Effective College Teaching (Irregular). 3 Hours.**

An examination of traditional and innovative instructional strategies for use in college teaching.

## **HIED 6423. Trends, Issues and Problems in Higher Education (Irregular). 3 Hours.**

A study of the current problems and trends related to the field of higher education.

## **HIED 6483. Strategic Enrollment Management (Irregular). 3 Hours.**

An examination of admissions marketing strategies, communications plans, branding, and forecasting as well as how other areas (financial aid, honors, scholarships, and student affairs) contribute to successful recruitment efforts. Other key enrollment management areas of focus for the class include academic records, registration, degree audits, FERPA, student support, and most importantly, retention. Major state and federal legislation that underscores any of these activities will be discussed as well.

## **HIED 6533. Assessment of Institutional Effectiveness in Higher Education (Irregular). 3 Hours.**

The course examines the fundamentals of assessment of learning outcomes and institutional effectiveness and introduces assessment as a tool to inform strategic planning and data-driven decision-making in higher education.

## **HIED 6643. College Students in the United States (Irregular). 3 Hours.**

Students will engage with the leading theoretical and empirical scholarship related to college students and use this information to engage in class discussion, complete course assignments, consider implications for practice, and contemplate opportunities for new scholarship. Prerequisite: Doctoral student in the Higher Education Program or instructor consent.

**HIED 6653. Legal Aspects of Higher Education (Sp, Fa). 3 Hours.**

An examination of the legal status of higher education in the United States; the rights and responsibilities of educators and students including fair employment; due process; torts liability and contracts; student rights landmark court decisions; federal and state legislation having an impact on education.

**HIED 6663. Finance and Fiscal Management (Irregular). 3 Hours.**

Higher education finance and budgeting practices: problems, issues, trends, and policy issues in higher education.

**HIED 6683. Governance and Policy Making in Higher Education (Irregular). 3 Hours.**

An analysis of governance and policy making affecting the control of colleges and universities. Attention is given to policy generation, governing board supervision, and the impact of institutional, professional, and regional groups as well as community, state, and federal pressures.

**HIED 6693. Research Techniques in Higher Education (Irregular). 3 Hours.**

Techniques of research applicable to Higher Education.

**HIED 674V. Internship (Sp, Su, Fa). 1-6 Hour.**

Supervised field experiences in student personnel services, college administration, college teaching, institutional research, development, or other areas of college and university work.

**HIED 699V. Seminar (Sp, Su, Fa). 1-6 Hour.**

A series of seminar for specialized study into areas of current significance in postsecondary education, such as leadership and planning; organization, development, and change; human resource development and appraisal; the student in higher education; etc. May be repeated for up to 6 hours of degree credit.

**HIED 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Doctoral Dissertation. Prerequisite: Candidacy. May be repeated for degree credit.

## History (HIST) Courses

**HIST 1003. Perspectives in History (Irregular). 3 Hours.**

Introduction to the history major and to college life, emphasizing essential collegiate academic skills and the methods and techniques of the professional historian.

Designed for history majors, history minors, and those with an interest in learning skills relevant to history, other humanities, or other social sciences.

**HIST 1003H. Honors Perspectives in History (Irregular). 3 Hours.**

Introduction to the history major and to college life, emphasizing essential collegiate academic skills and the methods and techniques of the professional historian.

Designed for history majors, history minors, and those with an interest in learning skills relevant to history, other humanities, or other social sciences. Prerequisite:

Honors standing.

This course is equivalent to HIST 1003.

**HIST 1113. Institutions and Ideas of World Civilizations I (ACTS Equivalency = HIST 1113) (Sp, Fa). 3 Hours.**

Introduces the major civilizations of the world in their historical context to 1500.

**HIST 1113H. Honors Institutions and Ideas of World Civilizations I (Irregular). 3 Hours.**

Study of Western and non-Western civilizations.

This course is equivalent to HIST 1113.

**HIST 1123. Institutions and Ideas of World Civilizations II (ACTS Equivalency = HIST 1123) (Sp, Fa). 3 Hours.**

Introduces the major civilizations of the world in their historical context, since 1500.

**HIST 1123H. Honors Institutions and Ideas of World Civilizations II (Irregular). 3 Hours.**

Study of Western and non-Western civilizations.

This course is equivalent to HIST 1123.

**HIST 2003. History of the American People to 1877 (ACTS Equivalency = HIST 2113) (Sp, Su, Fa). 3 Hours.**

A history of American life encompassing constitutional, political, social, intellectual and economic development from prior to European colonization to 1877.

**HIST 2013. History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) (Sp, Su, Fa). 3 Hours.**

A history of American life encompassing constitutional, political, social, intellectual and economic development from Reconstruction to the present.

**HIST 3003. History of Christianity (Irregular). 3 Hours.**

This course surveys the theological, political, and cultural history of Mediterranean Christianity, c. 30-600 CE. Special topics include patristics, Christianity and Empire, and the formation of Christian sacred space.

**HIST 300V. Internship in History (Sp, Su, Fa). 1-3 Hour.**

Work experience in a historical agency arranged by the student under the guidance of a faculty member. Paper required. May be repeated for up to 6 hours of degree credit.

**HIST 3013. Ancient Historians (Fa). 3 Hours.**

Survey of ancient historiography from Herodotus (5th c BCE) to Ammianus Marcellinus (4th c CE). Topics covered include the development of ancient history, historical causality, rhetoric and history, military history, historical biography, use of polemic, Roman adaptations of Greek models, and the portrayal of the "other" in history.

**HIST 3033. Islamic Civilization (Irregular). 3 Hours.**

A survey of the foundation, evolution, and distinctive character of Islam, with attention to religion, literature, art, architecture, science, and political society. Particular attention given to the development of Islamic doctrines, sectarian movements, and systematic theology. Concludes with a look at Islamic resurgence movements and their place in the contemporary world.

**HIST 3043. History of the Modern Middle East (Irregular). 3 Hours.**

Examines the history of the Islamic Middle East from the rise of the Ottoman and Safavid Persian empires up to World War I and then concludes with the issues and patterns of 20th century Middle Eastern political and socio-economic life. Topics include Islam and politics, Arab nationalism, Western imperialism, the Arab-Zionist conflict, petroleum politics, and modernization vs. traditionalism.

**HIST 3053. Women, Gender, and Sexuality in Colonial Latin America (Irregular). 3 Hours.**

This course examines women, gender, and sexuality in colonial Latin America. It explores the lives of indigenous, Spanish, African, and mixed-race women from all social ranks. A central question is: does the current status of women in Latin America stem from a colonial legacy of gender oppression and sexual repression?.

**HIST 3063. Military History (Irregular). 3 Hours.**

Survey of the basic principles and problems of strategy, tactics, and military organization from Alexander the Great to the present. Special attention will be given to the operation of these factors in the American Revolution, the Napoleonic Wars, the American Civil War, and World War II.

**HIST 3073. Women and Gender in Modern Latin American History (Irregular). 3 Hours.**

Examines the role of women in Latin America and the Spanish Caribbean from independence to modern times. Special emphasis will be on women's changing gender roles and expectations as they confronted legal, political, and social institutions.



**HIST 3083. Women and Christianity (Irregular). 3 Hours.**

From Paul to the mystics of the late medieval church, this course considers women's religious expression, symbolic action, interaction with holy men, and their relationship with the ecclesiastical hierarchy. Other important questions include women's institutional subordination opportunities for autonomous action.

**HIST 3093. Women in U.S. History (Irregular). 3 Hours.**

Examines women in U.S. History from the early encounters of North American colonization to the gendered experiences of American women in the present day.

**HIST 3133. History of Sports in Africa (Irregular). 3 Hours.**

This course considers the ways that Africans have strategically employed sports to confront and overcome both domestic and external challenges and how these approaches and the range of constituent strategies have changed over time.

This course is cross-listed with AAST 3133.

**HIST 3183. Popular Culture in the Caribbean (Irregular). 3 Hours.**

History of the Caribbean through a historically-situated analysis of popular culture production, including literature, dance, music, cuisine, film, carnival, television, and sexuality.

This course is cross-listed with AAST 3183.

**HIST 3193. The Making of the Modern Caribbean (Fa). 3 Hours.**

History of the Caribbean from pre-Columbian to present times focusing in particular on indigenous origins, colonialism, slavery, rebellion, independence, nationalism, and political integration in the making of the modern Caribbean region.

This course is cross-listed with AAST 3193.

**HIST 3203. Colonial Latin America (Odd years, Fa). 3 Hours.**

An introduction to the social, cultural, political and economic formation of Latin America, during the period from 1492 to the movements for independence.

**HIST 3213. Modern Latin America (Even years, Sp). 3 Hours.**

An investigation of the varying courses of modernization in Latin America, covering popular revolution, urban populism and military dictatorship.

**HIST 3233. African American History to 1877 (Sp, Fa). 3 Hours.**

History of the African American experience in North America emphasizing economic, social, and cultural perspectives. Topics include the African slave trade, the creation of race and racism, the institution of slavery, free community formation in North, and the impact of the Civil War and Reconstruction on African Americans.

This course is cross-listed with AAST 3233.

**HIST 3243. African American History Since 1877 (Sp, Fa). 3 Hours.**

The course will study the major social, political, and economical issues relating to the African American experience beginning with the late post-Reconstruction period and will include, all of the major personalities and influences in the Civil Rights Movement, from 1877 to the present.

This course is cross-listed with AAST 3243.

**HIST 3253. The History of Sub-Saharan Africa (Fa). 3 Hours.**

Sub-Saharan African history from the 18th century to the present, with emphasis on the impact of the slave trade, colonization, Independence, and contemporary issues of the post-colonial period. Examination of the ways Africans experienced change in terms of culture, society, economics, gender, religion, politics, and labor.

**HIST 3263. History of the American Indian (Fa). 3 Hours.**

Survey of North American Indian history from their arrival include pre-Columbian Indian history, the interaction of Indian and white societies, U.S. Government policy, and the role of Indians in modern American culture.

**HIST 3273. Agricultural and Rural History of the United States (Irregular). 3 Hours.**

The history of U.S. agriculture from the pre-Columbian period through the twenty-first century. Focuses on the social and economic implications of agricultural development and the changing nature of rural life in the late twentieth century.

**HIST 3283. U.S. Latinos and Latinas through Film (Sp). 3 Hours.**

This course will examine the portrayal of U.S. Latinos and Latinas in Hollywood films and how those images have changed over time. While coverage will extend to the early years of the twentieth century, the chosen films will place particular emphasis on the century's second half, from the Cold War to the modern day.

**HIST 3293. History of Popular Culture (Irregular). 3 Hours.**

Historical survey of the popular arts in American with emphasis upon 20th century. Principal topics are the history of bestsellers, the theatre, popular music, movies, radio, television, and sports.

**HIST 3303. U.S. Immigration History (Sp). 3 Hours.**

Examines the migration of ethnic groups into the United States from geographical areas that include Europe, Asia, Africa, and Latin America. Special emphasis will be given to cultural history, and will trace the impact of industrialization, urbanization, class formation, and popular culture on various ethnic groups.

**HIST 3313. Latinos and Latinas in the U.S. (Fa). 3 Hours.**

Examines the emergence and growth of the Latino population of the United States. A broad survey of the Latino experience will complement more specific case studies focusing on cultural identity and the generational process of acculturation into the American mainstream.

**HIST 3323. The West of the Imagination (Irregular). 3 Hours.**

The changing image of the American West from the colonial period to the present and how popular impressions have reflected national attitudes and values. Special attention given to the West's portrayal in folklore, literature, art, films, and television.

**HIST 3383. Arkansas and the Southwest (Sp, Fa). 3 Hours.**

Political, economic, social, and cultural development of Arkansas from the coming of the Indian to the 20th century, with special emphasis on Arkansas as a national and regional component.

**HIST 3423. British History, 1688-Present (Irregular). 3 Hours.**

A survey of British history from the Glorious Revolution of 1688 to the Present, covering the political, social, cultural, and military history of Britain during those years.

**HIST 3433. Twentieth Century Britain through Film (Irregular). 3 Hours.**

Explores 20th Century British History through the medium of film, analyzing how 20th Century British history has been represented/misrepresented in film, and investigating what these portrayals of Britain in the twentieth century reveal about British history.

**HIST 3443. Modern Imperialism (Odd years, Fa). 3 Hours.**

Examines the causes, nature, and consequences of modern imperialism. The histories of five different empires are studied and compared to give an overview of the phenomenon.

**HIST 3453. Modern Terrorism (Irregular). 3 Hours.**

Examines the historical foundations and course of modern terrorism, from the French Revolution to the present. Special attention is given to the Irish Republican Army, Baader Meinhoff Gang (Red Army Faction), the American militia movement, and al-Qaeda.

**HIST 3473. Palestine and Israel in Modern Times (Irregular). 3 Hours.**

History of 19th-20th Century Palestine, Zionism and the founding of modern Israel, and the Palestine-Israel conflict in local and regional perspective.

**HIST 3513. History of China to 1644 (Fa). 3 Hours.**

An interdisciplinary introduction to Chinese history and culture, beginning with the archaeological record and extending over the dynastic period and into early 17th century. Covers the major events, philosophical and religious traditions of pre-modern China, including Confucianism, Taoism, and Buddhism.

**HIST 3523. Modern China (Sp). 3 Hours.**

Survey of Chinese culture, society, government and diplomacy between 1644 and the present.

**HIST 3533. World War II (Sp). 3 Hours.**

Study of the causes, conduct and consequences of the Second World War.

**HIST 3543. Russia to 1861 (Fa). 3 Hours.**

Study of the political, social and cultural development of Russia from the Kievan era through the Napoleonic invasion.

**HIST 3553. Russia Since 1861 (Sp). 3 Hours.**

Survey of political, cultural and intellectual trends in modern Russia with emphasis upon the Revolutions of 1917, the Soviet Union, and its successor states.

**HIST 3573. World War I (Even years, Fa). 3 Hours.**

Explores the Great War's origins, major and minor battles, the role of technology, and the experience of soldiers. Examines the internal conflicts the war created, the ideologies it spawned, and the social relationships it permanently altered.

**HIST 3583. The United States and Vietnam, 1945-1975 (Fa). 3 Hours.**

A survey and analysis of the Vietnam War with special emphasis on its impact on American and Indochinese society.

**HIST 3593. The 1960s: A World Transformed (Odd years, Sp). 3 Hours.**

The tumultuous decade of the 1960s witnessed global political, social and cultural upheavals. We will study movements for change in the United States, as well as in Europe, China, Vietnam, and Latin American. Topics will include the New Left, the counterculture, and the student, civil rights, antiwar and women's movements.

**HIST 3603. Colonial and Revolutionary America, 1600-1789 (Irregular). 3 Hours.**

Survey of colonial and revolutionary American history, emphasizing economic, social, and cultural perspectives. Topics include historical interpretations of Native American, French, Spanish, English, Dutch, and Russian interactions in North America as well as the causes of the American Revolution and formation of the new national government.

**HIST 3613. Early National and Antebellum America, 1789-1850 (Irregular). 3 Hours.**

Survey of early national and antebellum America emphasizing economic, social, and cultural perspectives. Topics include the impact of westward expansion, slavery, religion, gender, the market economy, and political developments on the new nation.

**HIST 3623. Black Movements and Messiahs (Irregular). 3 Hours.**

This course will focus on global African history since the Age of Revolutions to the present with special attention to the movements and leaders in various fields who proposed strategies and led movements to advance Africa, Africans and the diaspora.

**HIST 3683. Europe in the 19th Century (Irregular). 3 Hours.**

Examines the political, social, and cultural history of Europe during the "long" nineteenth century from the French Revolution of 1789 to the outbreak of the First World War in 1914.

**HIST 3693. Europe in the 20th Century (Irregular). 3 Hours.**

Examines the political, social, and cultural history of Europe during the twentieth century from the outbreak of the First World War to the collapse of Communist states in Eastern Europe in 1989.

**HIST 3703. Urban History: The Modern Metropolis (Irregular). 3 Hours.**

This course explores transformations to major cities from the late-eighteenth century to the present day. Course themes include: industrialization, urban expansion, metropolitan regulation, imperial influence, identity formation, and the city as laboratory for monarchy/democracy/communism/fascism. We consider primary sources, secondary historical scholarship, and the writing of key figures in urban theory.

**HIST 3773. Introduction to Early South Asia (Irregular). 3 Hours.**

This survey course provides students with an overview of the development of civilization in South Asia (a region encompassing the countries of India, Pakistan, Bangladesh, Nepal and Sri Lanka) from its earliest human occupants through the end of the heyday of the Mughal empire in the early 18th century CE.

**HIST 3783. Islam and Early South Asia (Irregular). 3 Hours.**

Although Islam originated in Arabia, South Asian countries such as Pakistan, India, and Bangladesh today host among the largest populations of Muslims in the world. This survey course examines the introduction of Islam to South Asia in the 7th century CE and its subsequent development there through the mid-18th century.

**HIST 3803. Special Topics in Ancient History (Irregular). 3 Hours.**

Special topics in ancient history that are not presented in depth in regular courses. May be repeated for up to 9 hours of degree credit.

**HIST 3813. Special Topics in African History (Irregular). 3 Hours.**

Special topics related to African history which are not usually presented in depth in regular courses. May be repeated for up to 9 hours of degree credit.

**HIST 3823. Special Topics in Asian History (Irregular). 3 Hours.**

Historical topics in Asian history, including the eastern Pacific region, which are not usually presented in depth in regular courses. May be repeated for up to 9 hours of degree credit.

**HIST 3833. Special Topics in European History (Irregular). 3 Hours.**

Historical topics in European history which are not usually presented in depth in regular courses. May be repeated for up to 9 hours of degree credit.

**HIST 3843. Special Topics in Latin American and Caribbean History (Irregular). 3 Hours.**

Historical topics in Latin American and Caribbean history which are not usually presented in depth in regular courses. May be repeated for up to 9 hours of degree credit.

**HIST 3853. Special Topics in Middle East History (Irregular). 3 Hours.**

Historical topics in the history of the Middle East which are not usually presented in depth in regular courses. May be repeated for up to 9 hours of degree credit.

**HIST 3863. Special Topics in U.S. History (Irregular). 3 Hours.**

Historical topics in the history of the United States which are usually not covered in depth in regular courses. May be repeated for up to 9 hours of degree credit.

**HIST 3923H. Honors Colloquium (Irregular). 3 Hours.**

Treats a special topic or issue, offered as part of the honors program. Prerequisite: Honors candidacy (not restricted to candidacy in history). May be repeated for degree credit.

**HIST 3963. Art as History (Irregular). 3 Hours.**

Explores how historians can use art as historical source and how people have historically interpreted and analyzed art. Focus on art production/interpretation in Early Modern Europe (14th to 18th century), contemporary tastes, and cultural practices informing art production.

**HIST 3973H. Honors Methods (Fa). 3 Hours.**

A practical introduction to historical research and writing. Examines research methods and current theories of interpreting and evaluating the past. Prepares students for honors thesis development and writing. Required for and restricted to history honors students. Prerequisite: Junior standing as honors history major.

**HIST 3983. Special Topics (Irregular). 3 Hours.**

Historical topics which are not usually presented in depth in regular courses. May be repeated for up to 9 hours of degree credit.

**HIST 399VH. Honors History Thesis (Sp, Su, Fa). 1-6 Hour.**

Prerequisite: Junior standing. May be repeated for up to 12 hours of degree credit.

**HIST 4003. Democratic Athens (Irregular). 3 Hours.**

History of the Athens from the sixth century BCE to the end of the fourth. Topics include origins and evolution of democracy, the Persian wars, the rise and fall of the Athenian Empire, and the development of historiography, literature, art, and philosophy during the period.

**HIST 4013. Alexander the Great and the Hellenistic World (Irregular). 3 Hours.**

A survey of the achievements of Alexander and the culture of the new world he created. The personality and career of Alexander are examined as well as the rich diversity of the Hellenistic world: trade with India, religious syncretism, and the development of Hellenistic science and philosophy.

**HIST 4023. Roman Republic (Irregular). 3 Hours.**

History of Rome from its origins in the eighth century BCE to the fall of the Republic in the first century BCE. Topics include the sources for Roman history, the development, functioning, and ultimate failure of republican government, the Roman army, and Roman imperialism in Italy and the Mediterranean.

**HIST 4033. Roman Empire (Irregular). 3 Hours.**

History of Rome from the Emperor Augustus to Constantine, ca. 30 BCE - 337 CE. Topics include the sources for imperial Rome, the organization of imperial government, the provinces of Rome and provincial government, art and literature under the empire, the rise of Christianity, and the conversion of the Empire.

**HIST 4043. Late Antiquity and the Early Middle Ages (Even years, Fa). 3 Hours.**

This course examines the political, spiritual, intellectual, and social-economic developments of European history, c. 300-1000 CE. Special topics include the Christianization of the late Roman Empire and Byzantium, as well as the formation of Celtic and Germanic Kingdoms in the West.

**HIST 4053. Late Middle Ages (Odd years, Sp). 3 Hours.**

This course examines the political, social-economic, intellectual, and spiritual developments of European history, c. 1000-1400 CE. Special topics include monasticism, sacral kingship, the crusades, and the medieval university.

**HIST 406V. Independent Study (Sp, Su, Fa). 1-6 Hour.**

May be repeated for up to 6 hours of degree credit.

**HIST 4073. Renaissance and Reformation, 1300-1600 (Even years, Fa). 3 Hours.**

Examines the history of Europe from the end of the Middle Ages through the Renaissance to the Reformation and Counter-Reformation. Special attention is paid to changes in popular piety, political thought, religious representation, and the discovery of the New World.

**HIST 4083. Early Modern Europe, 1600-1800 (Odd years, Sp). 3 Hours.**

Begins with the upheaval of the reformation, moves through the crisis of the 17th century and culminates with the democratic revolution of the 18th century. Examines the consolidation of the European state system, the propagation of modern science, discovery of overseas worlds, and the advent of the Industrial Revolution.

**HIST 4093. The History of African Americans and Social Justice (Irregular). 3 Hours.**

Explores how the United States has extended social justice to African Americans during the nation's history. Examines social justice for blacks and the impact of historic policies and practices on black life today.

This course is cross-listed with AAST 4093.

**HIST 4103. Byzantine Empire (Irregular). 3 Hours.**

Examines the history and culture of the Byzantine Empire from the reign of Constantine I to the fall of Constantinople in 1453. Topics include the development of Christianity and the schism with the western church, the crusades, and Byzantine influence on Islam, Russia, the Ottomans, and the Renaissance.

**HIST 4113. Archaic Greece (Irregular). 3 Hours.**

History of Greece from the late Bronze Age to the end of the Persian Wars. This class will focus particularly on the sources involved with reconstructing early Greek history, especially Herodotus and Homer, on the development of the Greek city-state or polis, and on the interaction between the Greeks and Near-eastern civilizations during this period, culminating in the wars between the Greeks and the Persian Empire.

**HIST 4123. Africa and the Trans-Atlantic Slave Trade (Irregular). 3 Hours.**

Examines the trans-Atlantic slave trade with a primary focus on the role of Africa and Africans in creating the unique economy and culture of the trans-Atlantic world. This course is cross-listed with AAST 4123.

**HIST 4133. Society and Gender in Modern Europe (Odd years, Sp). 3 Hours.**

Changing values and attitudes toward childhood, family life, sexuality, and gender roles in Europe from the Renaissance to the present. The social impact of the Industrial Revolution, urbanization, demographic change, and the two world wars.

**HIST 4143. Intellectual History of Europe Since the Enlightenment (Even years, Fa). 3 Hours.**

A survey of the major developments in European thought and culture since the emergence of Romanticism. Topics include Romanticism, Darwinism, Marxism, and Modernism.

**HIST 4153. Modern Ireland, 1798-1948 (Irregular). 3 Hours.**

Examines the course of Irish history from the 1798 United Irishmen rebellion to the 1948 declaration of the Republic of Ireland. Special attention is given to Catholic emancipation, the Great Famine, the Home Rule movements, the Irish War of Independence, and the Emergency (Second World War).

**HIST 4163. Tudor-Stuart England, 1485-1714 (Even years, Sp). 3 Hours.**

Examines the history of the British Isles from the ascension of Henry VII and the Tudor dynasty until the close of the Stuart Era in 1714. Special attention is given to the English Reformation, the Elizabethan years, the 17th Century Revolutions, and the birth of an overseas Empire.

**HIST 4173. The Latin American City (Irregular). 3 Hours.**

This course examines the social, political, and cultural aspects of the modern Latin American city from an interdisciplinary perspective. The course includes an introduction to urban studies concepts, and each semester is organized around a specific set of case studies.

**HIST 4183. Great Britain, 1707-1901 (Even years, Fa). 3 Hours.**

Examines the history of the British Isles from the 1707 Act of Union between Scotland and England until the death of Queen Victoria in 1901. Special attention is given to the spread of Empire, industrialization, and the political, social, and cultural aspects of the Georgian and Victorian Eras.

**HIST 4193. Great Britain, 1901-2001 (Odd years, Sp). 3 Hours.**

Examines the history of the British Isles from the death of Queen Victoria in 1901 to the reelection of Prime Minister Tony Blair in 2001. Special attention is given to the collapse of the British Empire, the birth of the welfare state, and the challenges inherent in the decline of British world power.

**HIST 4203. History of the Holocaust (Irregular). 3 Hours.**

Examines the origins, history, and legacies of the European Holocaust. Traces the origins of anti-Semitism in Europe, the rise of Nazism in Germany, the path to genocide during World War II, and the role of victims, perpetrators, rescuers, and bystanders. Considers issues of memory and justice in the postwar era.

**HIST 4213. The Era of the French Revolution (Odd years, Fa). 3 Hours.**

France from the salons of the Enlightenment to the Napoleonic Wars. The French Revolution will be explored in terms of politics and personalities, ideas and symbols, class and gender relations, and violence and terror.

**HIST 4223. France Since 1815 (Even years, Sp). 3 Hours.**

Survey of French history from the overthrow of Napoleon to the 5th Republic, with emphasis on French politics, society, and culture.

**HIST 4233. The Atlantic World, 1400-1850 (Irregular). 3 Hours.**

Explores the political, economic, cultural, and social engagement of Africans, Europeans, and Native Americans across the Atlantic from 1400 to 1850. It uses a comparative lens to understand how interactions between Europe, Africa, and the Americas created enduring ties throughout the Atlantic Basin.

**HIST 4243. Germany, 1789-1918 (Irregular). 3 Hours.**

Study of German history from the Age of Absolutism to the collapse of the German Empire at the end of the First World War. Special attention is paid to the Enlightenment and Romantic movements; nationalism and the unification of Germany; and evolving conflicts over the political and social order.

**HIST 4253. Germany, 1918-1945 (Irregular). 3 Hours.**

Study of German history from advent of the Weimar Republic to the end of the Third Reich with emphasis upon the failure of democratic government in the 1920s and the rise and fall of the National Socialist dictatorship.

**HIST 4263. Independence and Africa Today (Sp). 3 Hours.**

Examines the last half-century of Africa's history, focusing on the last few decades. Introduction of Africa's colonial past, revolutions and struggles for independence. Review of African development in the post-colonial and contemporary era, successes and failures of independent Africa, and the challenges the continent faces today.

This course is cross-listed with AAST 4263.

**HIST 4273. Comparative Slavery (Irregular). 3 Hours.**

Explores the meaning of slavery around the world, both in ancient and modern times. This examination of how slavery differed in various cultures over time will allow students to explore the complexity of this labor relationship and gain a better understanding of how slavery was an integral part of world history.

This course is cross-listed with AAST 4273.

**HIST 4273H. Honors Comparative Slavery (Irregular). 3 Hours.**

Explores the meaning of slavery around the world, both in ancient and modern times. This examination of how slavery differed in various cultures over time will allow students to explore the complexity of this labor relationship and gain a better understanding of how slavery was an integral part of world history.

This course is cross-listed with HIST 4273, AAST 4273.

**HIST 4303. Transatlantic Relations, 1919-Present (Irregular). 3 Hours.**

US-Western European Relations, from the Wilsonian era to the present, covering strategic, economic, and cultural aspects.

**HIST 4313. Islamic Theology and Philosophy, 650-1700 (Irregular). 3 Hours.**

Doctrines and main figures in Islamic theology and philosophy from the origins of Islam through the seventeenth century C.E.

**HIST 4323. Wars of Religion: From the Crusades to 9/11 (Irregular). 3 Hours.**

Examines the place of religion in combat across the centuries. A case study approach is used to explore different conflicts from the twelfth century crusades against Muslim forces to 9/11. Investigates how religious motivations may or may not be related to other political, social, cultural, economic concerns.

**HIST 4333. Modern Islamic Thought (Irregular). 3 Hours.**

Main currents in Islamic theology and political philosophy from the Ottoman Empire to the end of the twentieth century.

**HIST 4343. Golden Age Portugal and Spain (Irregular). 3 Hours.**

This course will examine the diverging and converging paths of Portugal and Spain during the early modern period (15th-17th centuries). We will chart their rise as global imperial powers and their initial declines. We'll explore the political, social, and religious contexts in which Golden Age Iberia flourished.

**HIST 4353. Middle East, 600-1250 (Even years, Fa). 3 Hours.**

An examination of the origins of modern Middle Eastern societies-Arabic, Turkish, and Persian-with emphasis upon the development of the Islamic faith and culture.

**HIST 4363. The Middle East since 1914 (Irregular). 3 Hours.**

Middle East since 1914 addresses European colonialism, the rise of new social elites, independence, revolution, globalization, economic self-determination, persistent regional conflicts and ongoing battles over "cultural authenticity".

**HIST 4373. Mongol & Mamluk Middle East 1250-1520 (Even years, Sp). 3 Hours.**

An examination of Egypt, the Fertile Crescent, and Iran in the period of the Turco-Mongol military elites. Special attention given to the rise of slave and free governments and their roles in shaping Middle East political and social patterns.

**HIST 4383. The American Civil Rights Movement (Irregular). 3 Hours.**

Introduction to the history and development of the civil rights movement in the United States.

This course is cross-listed with AAST 4383.

**HIST 4393. Early Modern Islamic Empires, 1300-1750 (Odd years, Sp). 3 Hours.**

An examination of the historical development of the three great Islamic empires in the early modern period- the Ottomans, the Safavids of Iran, and the Mughals of India. Special attention given to imperial expansion, administrative structures, religious-legal establishment, and the formation of distinct traditions in political ideology, historiography, and the arts and sciences.

**HIST 4403. Islam in Asia (Irregular). 3 Hours.**

Introduces students to the history of Islam in East and Southeast Asia over the past 1,200 years. It focuses on the 18th-21st centuries when Muslims were part of everyday life in Asia and participated in the formation of majority and minority identities in the region.

**HIST 4413. New Women in the Middle East (Irregular). 3 Hours.**

This course covers the transformation of social and cultural roles of women in the Middle East since the 19th Century. Emphases include political emancipation, religious reformation, artistic representation, and gendered re-definition.

**HIST 4433. Social and Cultural History of the Modern Middle East (Irregular). 3 Hours.**

An analysis of Middle East history in the 17th-20th centuries which focuses on the social transformation of urban and rural life. Particular emphasis is given to the roles of economics, genealogy, art, and popular culture.

**HIST 4443. Frontiers and Borderlands in Colonial Latin America (Irregular). 3 Hours.**

This course examines frontiers and borderlands in colonial Latin America and focuses on the regions of California, New Mexico, Texas, Brazil, and the Río de la Plata. It demonstrates that frontiers and borderlands are defined by the absence of a hegemonic European power and associated with the prevalence of Indigenous norms.

**HIST 4463. The American Frontier (Odd years, Fa). 3 Hours.**

American westward expansion and its influence on national institutions and character. Emphasis on the pioneer family and the frontier's role in shaping American society, culture, economy, and politics. Topics include exploration, the fur trade, the cattle kingdom and the mining, farming, and military frontiers.

**HIST 4473. Environmental History (Irregular). 3 Hours.**

Examines the interactions between human culture and the natural environments: Concepts of nature in the West and elsewhere, dynamics of the Physical Environment, case studies in Regional Environmental History and the Politics of Environmental movements.

**HIST 4483. African American Biographies (Irregular). 3 Hours.**

Introduction to the history and intellectual development of famous and not-so-famous African Americans.

This course is cross-listed with AAST 4483.

**HIST 4493. Religion in America to 1860 (Irregular). 3 Hours.**

History of religion in early America, primarily from a social and cultural perspective. Topics will include region, social class, growth of institutions, slavery, print culture, and social reform in traditions including Protestantism, West African religion, Catholicism, Native American religion, and Judaism.

**HIST 4503. History of Political Parties in the United States, 1789-1896 (Even years, Fa). 3 Hours.**

Origin and development of the American party system from the implementation of the constitution to the election of McKinley.

This course is cross-listed with PLSC 4303.

**HIST 4513. History of Political Parties in the United States Since 1896 (Odd years, Sp). 3 Hours.**

Response of the party system to America's emergence as an industrial nation and world power from the election of 1896 to present.

This course is cross-listed with PLSC 4313.

**HIST 4533. China's Foreign Trade and International Order: History, Policy, and Theory (Irregular). 3 Hours.**

This interdisciplinary course explores China's foreign trade and international order by introducing students to the historical context and economic theory necessary for understanding China's role in the international trading system from the ancient past to the contemporary era.

This course is cross-listed with PLSC 4533, ECON 4533.

**HIST 4543. American Social and Intellectual History Since 1865 (Odd years, Sp). 3 Hours.**

Survey of thought and society since the Civil War.

**HIST 4553. The Recluse in Early East Asia (Even years, Fa). 3 Hours.**

A cross-cultural study of those who chose or needed to leave the world of officialdom for the world of nature in early East Asia.

**HIST 4563. The Old South, 1607-1865 (Odd years, Fa). 3 Hours.**

Survey of the political, social, and economic development of the antebellum South.

**HIST 4573. The New South, 1860 to the Present (Even years, Fa). 3 Hours.**

Survey of the development of the Civil War and postwar South to the present.

This course is cross-listed with AAST 4573.

**HIST 4583. Arkansas in the Nation (Sp). 3 Hours.**

Designed to provide advanced undergraduate and graduate students with a comprehensive understanding of the full sweep of Arkansas history. The focus will be on social, economic and political history, and historiography.

**HIST 4593. The Colonial French in the Mississippi Valley (Sp). 3 Hours.**

This course focuses on the French Colonial Mississippi Valley from 1698 until 1763. Activities for both French and non-French speaking students provide a rich environment to discuss encounters, subsistence strategies, and warfare faced by native peoples, missionaries, explorers, and colonists alike. Students will examine primary handwritten, transcribed, or translated sources.

This course is cross-listed with WLLC 4053, WLLC 4053H.

**HIST 4603. U.S. Labor History to 1877 (Odd years, Fa). 3 Hours.**

Examines the changing nature of work in U.S. history from 1607 until 1877 including the ways that workers--individually and collectively-- understand the meanings of their labor and to the ways that notions of class, gender, ethnicity, and race inform these understandings.

**HIST 4613. Colonial America 1600-1763 (Irregular). 3 Hours.**

History of colonial America from 1600 to the end of the Seven Years War emphasizing economic, social, and cultural perspectives. Topics include Native American, French, Spanish, English, Dutch, and Russian interactions in North America and the larger Atlantic World.

**HIST 4623. Revolutionary America, 1763 to 1789 (Irregular). 3 Hours.**

History of revolutionary America emphasizing economic, social, and cultural perspectives. Topics include historical interpretations of the causes of the war, the impact of war on African Americans, women, loyalists, elite, and poor Americans.

The course also examines the formation of the new national government.

**HIST 4633. Heian Japan (794-1192) (Irregular). 3 Hours.**

A study of courtly culture and the religious world of Heian Japan.

**HIST 4633H. Honors Heian Japan (794-1192) (Irregular). 3 Hours.**

A study of courtly culture and the religious world of Heian Japan.

This course is equivalent to HIST 4633.

**HIST 4643. Early American Republic, 1789-1828 (Irregular). 3 Hours.**

History of the early United States emphasizing social and cultural perspectives.

Topics addressed will include westward expansion, slavery, religion, and economic change.

**HIST 4653. Antebellum America, 1828-1850 (Irregular). 3 Hours.**

History of antebellum U.S. emphasizing social and cultural perspectives. Topics addressed will include slavery, religion, gender, the market economy, regionalism, and political developments.

**HIST 4663. Rebellion to Reconstruction, 1850-1877 (Irregular). 3 Hours.**

A survey of political, social, and economic issues from the late antebellum period through Reconstruction. Emphasis is placed on the causes of the Civil War and the problems of postwar America. A brief examination of the Civil War is included.

**HIST 4673. The American Civil War (Fa). 3 Hours.**

An intensive study of the political, social, military, and economic aspects of the American Civil War period.

**HIST 4703. Emergence of Modern America, 1876-1917 (Odd years, Fa). 3 Hours.**

A survey of the impact of the Industrial Revolution, Imperialism, and progressivism upon American life and institutions.

**HIST 4723. America Between the Wars, 1917-1941 (Irregular). 3 Hours.**

The impact of World War I, the 1920s, and the Great Depression upon American society and culture.

**HIST 4733. Recent America, 1941 to the Present (Irregular). 3 Hours.**

A general survey of American history since World War II with emphasis upon the presidency, reform movements, the Cold War, and cultural developments.

**HIST 4743. The Cold War in Latin America: Revolutions, Violence, and Politics (Irregular). 3 Hours.**

This course will trace the rise of the ideological and political struggles over social and economic development and the security regimes designed to thwart socialist revolution and political mobilization. The influence of the United States in Latin American security regimes and "containment" activities will receive special attention.

**HIST 4753. Diplomatic History of the United States, 1776-1900 (Even years, Fa). 3 Hours.**

Survey of American foreign relations from the American Revolution through the Spanish-American War. Principal topics include isolationism, freedom of the seas, manifest destiny and continental expansion, overseas expansion, and the diplomacy of war and peace. Emphasis on the relationship between domestic politics and foreign affairs. Prerequisite: HIST 2003.

**HIST 4763. Diplomatic History of the United States, 1900-1945 (Odd years, Sp). 3 Hours.**

America's development as a world power. The course examines U.S. relations with Europe, Latin America, and East Asia, plus America's first approach to the Middle East. Particular emphasis is placed on America's involvement in World War I and World War II. Prerequisite: HIST 2013.

**HIST 4773. Diplomatic History of the US, 1945 to Present (Odd years, Fa). 3 Hours.**

U.S. involvement in world affairs since WWII. The Cold War from an international perspective, including strategies, nuclear deterrence, conflicts, economic developments, cultural relations among allies and adversaries. Post-Cold War scenarios, including war on terrorism.

**HIST 4783. History of Modern Mexico (Odd years, Sp). 3 Hours.**

This course examines the history of Mexico from the wars of independence to the present. Emphasis will be placed on the turbulent nineteenth century and the Mexican Revolution. Themes covered include colonial legacies, national identities, popular culture, emigration, and relations with the United States.

**HIST 4793. Colonial India, 1758-1948 (Irregular). 3 Hours.**

Examines the course of Indian history from the 1758 Battle of Plassey to eventual independence from Great Britain in 1948. Special attention is given to India's place within the British Empire, particularly the East Indian Company, the Indian Mutiny, the Raj, the rise of Gandhi, and India's independence movement.

**HIST 4803. Modern Scandinavia (Irregular). 3 Hours.**

Examines the history of the Nordic lands, including Denmark, Finland, Iceland, Norway, and Sweden, from 1500 to the present.

**HIST 4813. Africans and Slavery in Colonial Latin America (Irregular). 3 Hours.**

Explores the diverse experiences of slaves and free Blacks in colonial Spanish and Portuguese America from 1500 to around 1888, demonstrating that bondage and the practice of African slavery was a pillar of political authority in colonial Latin America. This course is cross-listed with AAST 4813.

**HIST 4823. Black Freedom in the Age of Emancipation (Sp). 3 Hours.**

This course centers on the comparative study of Atlantic World freedom movements from the perspective of the African Diaspora. It focuses on the histories, meanings, legacies of the various types of black emancipation in the Atlantic World and the cultural technologies that enabled them.

**HIST 4853. Early Chinese Empires: Mythology, Archeology, and Historiography (Sp). 3 Hours.**

A critical introduction to the most important sources and major themes, both textual and archeological, for the study of early China.

**HIST 4853H. Honors Early Chinese Empires: Mythology, Archeology, and Historiography (Sp). 3 Hours.**

A critical introduction to the most important sources and major themes, both textual and archeological, for the study of early China. This course is equivalent to HIST 4853.

**HIST 4863. Classical Thought in East Asia (Fa). 3 Hours.**

Introduces the major East Asian philosophical and religious traditions including Confucianism, Daoism, Buddhism, and Shintoism. Read original sources in translation, such as Analects, and explore perspectives that stem from the traditions as they bear on contemporary global issues.

**HIST 4863H. Honors Classical Thought in East Asia (Fa). 3 Hours.**

Introduces the major East Asian philosophical and religious traditions including Confucianism, Daoism, Buddhism, and Shintoism. Read original sources in translation, such as Analects, and explore perspectives that stem from the traditions as they bear on contemporary global issues. This course is equivalent to HIST 4863.

**HIST 4873. Germany since 1945 (Irregular). 3 Hours.**

Examines the history of Germany since the end of the Second World War including political division and economic recovery, dissident movements in East Germany and alternative cultures in West Germany, reunification in 1990, and the legacy of Nazism and the Holocaust.

**HIST 4883. Health and Disease: 1500 to the Present (Irregular). 3 Hours.**

Explores the emergence of epidemics against the backdrop of the nation state and anxieties over women, the lower classes, and other marginalized groups. The rise of modern health programs illuminates the cultural construction of medicine, the biases of scientific inquiry, and the tensions among paternalism, liberty, and prejudice.

**HIST 4893. Senior Capstone Seminar (Sp, Fa). 3 Hours.**

Required for all history majors. Examines research methods and current theories of interpreting and evaluating the past. Emphasizes skills of analysis, synthesis, and integration. Students produce a primary source-based research paper. A grade of a B or better will satisfy the Fulbright senior writing requirement. Prerequisite: History major; senior standing.

**HIST 4903. Music and the Arts of Edo Japan 1600-1868 (Irregular). 3 Hours.**

A music and arts view of urban and popular culture of the Edo period of Japan (1600-1868). Readings drawn from history, literature, aesthetics, religion and science.

**HIST 4903H. Honors Music and the Arts of Edo Japan (1600-1868) (Irregular). 3 Hours.**

A music and arts view of urban and popular culture of the Edo period of Japan (1600-1868). Readings drawn from history, literature, aesthetics, religion and science.

This course is equivalent to HIST 4903.

**HIST 4913. Reading Japanese Noh as Cultural History (Irregular). 3 Hours.**

A historical, sociocultural, and inter-arts approach to the medieval lyric-drama Japanese Noh, a form of masked theater with roots reaching beyond the 14th century.

**HIST 4913H. Honors Reading Japanese Noh as Cultural History (Irregular). 3 Hours.**

A historical, sociocultural, and inter-arts approach to the medieval lyric-drama Japanese Noh, a form of masked theater with roots reaching beyond the 14th century.

This course is equivalent to HIST 4913.

**HIST 4923. Song China 960-1279 (Irregular). 3 Hours.**

Examination of the Song dynasty (960-1279) concentrating on the education and role of the scholar-official and the literatus. Readings drawn from history, literature, personal diaries, travel accounts, political memoranda, and scientific writings.

**HIST 4923H. Honors Song China (960-1279) (Irregular). 3 Hours.**

Examination of the Song dynasty (960-1279) concentrating on the education and role of the scholar-official and the literatus. Readings drawn from history, literature, personal diaries, travel accounts, political memoranda, and scientific writings. This course is equivalent to HIST 4923.

**HIST 4933. Ad Paradisum: Utopias, imaginary places, and the afterlife in East Asia (Irregular). 3 Hours.**

Confucian, Daoist, and Buddhist ideas of ideal communities ('utopias'), of imaginary places ('paradise islands'), and of the afterlife ('heaven and hell') in East Asia will be traced in a broad sweep across literature, painting, and the performing arts.

**HIST 4933H. Hon Ad Paradisum: Utopias, imaginary places, and the afterlife in East Asia (Irregular). 3 Hours.**

Confucian, Daoist, and Buddhist ideas of ideal communities ('utopias'), of imaginary places ('paradise islands'), and of the afterlife ('heaven and hell') in East Asia will be traced in a broad sweep across literature, painting, and the performing arts. This course is equivalent to HIST 4933.

**HIST 4943. U.S. Labor History, from 1877-present (Even years, Sp). 3 Hours.**

This course will examine the changing nature of work in U.S. history from 1877 until the present. It will pay particular attention to the ways that workers--individually and collectively--understand the meanings of their labor and to the ways that notions of class, gender, ethnicity, and race inform these understandings.

**HIST 4953. The History of Sub-Saharan African Women (Irregular). 3 Hours.**

Introduction to the history of women in Sub-Saharan Africa, starting in the early 18th century through the 20th century. Focus on women and the transatlantic slave trade, women's influence in pre-colonial religious, political, and cultural institutions, and women's experiences under colonial rule and in post-colonial Africa. May be repeated for up to 6 hours of degree credit.

This course is cross-listed with AAST 4953.

**HIST 4953H. Honors The History of Sub-Saharan African Women (Irregular). 3 Hours.**

Introduction to the history of women in Sub-Saharan Africa, starting in the early 18th century through the 20th century. Focus on women and the transatlantic slave trade, women's influence in pre-colonial religious, political, and cultural institutions, and women's experiences under colonial rule and in post-colonial Africa. May be repeated for up to 6 hours of degree credit.

This course is cross-listed with HIST 4953, AAST 4953.

**HIST 4963. Third World Underdevelopment and Modernization (Irregular). 3 Hours.**

Examines key issues related to societal change in the Third World, including various views and theories of international development and modernization. Other major issues explored include social inequalities, food and hunger, population, environment, trade and globalization, international aid, and the roles of state, market, and civil society.

This course is cross-listed with AAST 4963.

**HIST 4973. The Civilization of the Renaissance in Italy (Irregular). 3 Hours.**

Important trends in Italian culture between the 14th and 16th centuries, including the birth of humanism, new understandings of the past, "new" political ideologies, scientific innovation, and famous art produced in the Western tradition.

**HIST 498V. Senior Thesis (Irregular). 1-6 Hour.****HIST 5003. Democratic Athens (Irregular). 3 Hours.**

(Formerly HIST 4003.) History of the Athens from the sixth century BCE to the end of the fourth. Topics include origins and evolution of democracy, the Persian wars, the rise and fall of the Athenian Empire, and the development of historiography, literature, art, and philosophy during the period. Graduate degree credit will not be given for both HIST 4003 and HIST 5003.

**HIST 5013. Alexander the Great and the Hellenistic World (Irregular). 3 Hours.**

(Formerly HIST 4013.) A survey of the achievements of Alexander and the culture of the new world he created. The personality and career of Alexander are examined as well as the rich diversity of the Hellenistic world: trade with India, religious syncretism, and the development of Hellenistic science and philosophy. Graduate degree credit will not be given for both HIST 4013 and HIST 5013.

**HIST 5033. Roman Empire (Irregular). 3 Hours.**

(Formerly HIST 4033.) History of Rome from the Emperor Augustus to Constantine, ca. 30 BCE - 337 CE. Topics include the sources for imperial Rome, the organization of imperial government, the provinces of Rome and provincial government, art and literature under the empire, the rise of Christianity, and the conversion of the Empire. Graduate degree credit will not be given for both HIST 4033 and HIST 5033.

**HIST 506V. Readings in European History (Irregular). 1-6 Hour.**

Directed readings in the field of European history. Prerequisite: Graduate standing. May be repeated for up to 12 hours of degree credit.

**HIST 507V. Readings in American History (Sp, Su, Fa). 1-6 Hour.**

Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

**HIST 508V. Research Problems in European History (Sp, Su, Fa). 1-6 Hour.**

Prerequisite: Graduate standing.

**HIST 509V. Research Problems in American History (Sp, Su, Fa). 1-6 Hour.**

Prerequisite: Graduate standing.

**HIST 511V. Research Problems in Latin American History (Irregular). 1-6 Hour.****HIST 517V. Readings in Asian History (Irregular). 1-6 Hour.**

Prerequisite: Graduate standing.

**HIST 518V. Research Problems in Asian History (Irregular). 1-18 Hour.**

Prerequisite: graduate standing.

**HIST 5193. Great Britain, 1901-2001 (Odd years, Sp). 3 Hours.**

(Formerly HIST 4193.) Examines the history of the British Isles from the death of Queen Victoria in 1901 to the reelection of Prime Minister Tony Blair in 2001. Special attention is given to the collapse of the British Empire, the birth of the welfare state, and the challenges inherent in the decline of British world power. Graduate degree credit will not be given for both HIST 4193 and HIST 5193.

**HIST 5203. History of the Holocaust (Irregular). 3 Hours.**

(Formerly HIST 4203.) Examines the origins, history, and legacies of the European Holocaust. Traces the origins of anti-Semitism in Europe, the rise of Nazism in Germany, the path to genocide during World War II, and the role of victims, perpetrators, rescuers, and bystanders. Considers issues of memory and justice in the postwar era. Graduate degree credit will not be given for both HIST 4203 and HIST 5203.

**HIST 522V. Readings in Latin America History (Irregular). 1-6 Hour.****HIST 524V. Readings in African History (Irregular). 1-6 Hour.****HIST 525V. Research Problems in African History (Irregular). 1-6 Hour.****HIST 526V. Readings in Middle Eastern History (Irregular). 1-6 Hour.****HIST 527V. Readings in Medieval History (Irregular). 1-6 Hour.**

Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

**HIST 528V. Research Problems in Middle Eastern History (Irregular). 1-6 Hour.****HIST 529V. Research Problems in Medieval History (Irregular). 1-6 Hour.**

Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

**HIST 530V. Readings in British History (Irregular). 1-6 Hour.**

Directed readings in the field of British history. Prerequisite: Graduate standing. May be repeated for up to 12 hours of degree credit.

**HIST 533V. Readings in Ancient History (Irregular). 1-6 Hour.**

Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

**HIST 534V. Research Problems in Ancient History (Irregular). 1-6 Hour.**

Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

**HIST 5393. Early Modern Islamic Empires, 1300-1750 (Odd years, Sp). 3 Hours.**

(Formerly HIST 4393.) An examination of the historical development of the three great Islamic empires in the early modern period- the Ottomans, the Safavids of Iran, and the Mughals of India. Special attention given to imperial expansion, administrative structures, religious-legal establishment, and the formation of distinct traditions in political ideology, historiography, and the arts and sciences. Graduate degree credit will not be given for both HIST 4393 and HIST 5393.

**HIST 5403. Islam in Asia (Irregular). 3 Hours.**

(Formerly HIST 4403.) Introduces students to the history of Islam in East and Southeast Asia over the past 1,200 years. It focuses on the 18th-21st centuries when Muslims were part of everyday life in Asia and participated in the formation of majority and minority identities in the region. Graduate degree credit will not be given for both HIST 4403 and HIST 5403.

**HIST 545V. Readings in Caribbean History (Irregular). 1-6 Hour.**

Graduate readings in Caribbean history. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

**HIST 546V. Research Problems in Caribbean History (Irregular). 1-6 Hour.**

Independent research in Caribbean history. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

**HIST 547V. Readings in Atlantic History (Irregular). 1-6 Hour.**

Graduate readings in Atlantic world history. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

**HIST 5483. African American Biographies (Irregular). 3 Hours.**

(Formerly HIST 4483.) Introduction to the history and intellectual development of famous and not-so-famous African Americans. Graduate degree credit will not be given for both HIST 4483 and HIST 5483.

**HIST 5493. Religion in America to 1860 (Irregular). 3 Hours.**

(Formerly HIST 4493.) History of religion in early America, primarily from a social and cultural perspective. Topics will include region, social class, growth of institutions, slavery, print culture, and social reform in traditions including Protestantism, West African religion, Catholicism, Native American religion, and Judaism. Graduate degree credit will not be given for both HIST 4493 and HIST 5493.

**HIST 5503. History of Political Parties in the United States, 1789-1896 (Even years, Fa). 3 Hours.**

(Formerly HIST 4503.) Origin and development of the American party system from the implementation of the constitution to the election of McKinley. Graduate degree credit will not be given for both HIST 4503 and HIST 5503.

**HIST 5513. History of Political Parties in the United States Since 1896 (Odd years, Sp). 3 Hours.**

(Formerly HIST 4513.) Response of the party system to America's emergence as an industrial nation and world power from the election of 1896 to present. Graduate degree credit will not be given for both HIST 4513 and HIST 5513.

**HIST 5523. Roman Republic (Irregular). 3 Hours.**

(Formerly HIST 4023.) History of Rome from its origins in the eighth century BCE to the fall of the Republic in the first century BCE. Topics include the sources for Roman history, the development, functioning, and ultimate failure of republican government, the Roman army, and Roman imperialism in Italy and the Mediterranean. Graduate degree credit will not be given for both HIST 4023 and HIST 5523.

**HIST 5533. China's Foreign Trade and International Order: History, Policy, and Theory (Irregular). 3 Hours.**

(Formerly HIST 4533.) This interdisciplinary course explores China's foreign trade and international order by introducing students to the historical context and economic theory necessary for understanding China's role in the international trading system from the ancient past to the contemporary era. Graduate degree credit will not be given for both HIST 4533 and HIST 5533.

**HIST 5543. American Social and Intellectual History Since 1865 (Odd years, Sp). 3 Hours.**

(Formerly HIST 4543.) Survey of thought and society since the Civil War. Graduate degree credit will not be given for both HIST 4543 and HIST 5543.

**HIST 5553. The Recluse in Early East Asia ( Even years, Fa). 3 Hours.**

(Formerly HIST 4553.) A cross-cultural study of those who chose or needed to leave the world of officialdom for the world of nature in early East Asia. Graduate degree credit will not be given for both HIST 4553 and HIST 5553.

**HIST 5563. The Old South, 1607-1865 (Odd years, Fa). 3 Hours.**

(Formerly HIST 4563.) Survey of the political, social, and economic development of the antebellum South. Graduate degree credit will not be given for both HIST 4563 and HIST 5563.

**HIST 5573. The New South, 1860 to the Present (Even years, Fa). 3 Hours.**

(Formerly HIST 4573.) Survey of the development of the Civil War and postwar South to the present. Graduate degree credit will not be given for both HIST 4573 and HIST 5573.

**HIST 5583. Arkansas in the Nation (Sp). 3 Hours.**

(Formerly HIST 4583.) Designed to provide advanced undergraduate and graduate students with a comprehensive understanding of the full sweep of Arkansas history. The focus will be on social, economic and political history, and historiography. Graduate degree credit will not be given for both HIST 4583 and HIST 5583.

**HIST 5593. The Colonial French in the Mississippi Valley (Sp). 3 Hours.**

(Formerly HIST 4593.) This course focuses on the French Colonial Mississippi Valley from 1698 until 1763. Activities for both French and non-French speaking students provide a rich environment to discuss encounters, subsistence strategies, and warfare faced by native peoples, missionaries, explorers, and colonists alike. Students will examine primary handwritten, transcribed, or translated sources. Graduate degree credit will not be given for both HIST 4593 and HIST 5593.

**HIST 5603. U.S. Labor History to 1877 (Odd years, Fa). 3 Hours.**

(Formerly HIST 4603.) Examines the changing nature of work in U.S. history from 1607 until 1877 including the ways that workers--individually and collectively--understand the meanings of their labor and to the ways that notions of class, gender, ethnicity, and race inform these understandings. Graduate degree credit will not be given for both HIST 4603 and HIST 5603.

**HIST 5613. Colonial America 1600-1763 (Irregular). 3 Hours.**

(Formerly HIST 4613.) History of colonial America from 1600 to the end of the Seven Years War emphasizing economic, social, and cultural perspectives. Topics include Native American, French, Spanish, English, Dutch, and Russian interactions in North America and the larger Atlantic World. Graduate degree credit will not be given for both HIST 4613 and HIST 5613.

**HIST 5623. Revolutionary America, 1763 to 1789 (Irregular). 3 Hours.**

(Formerly HIST 4623.) History of revolutionary America emphasizing economic, social, and cultural perspectives. Topics include historical interpretations of the causes of the war, the impact of war on African Americans, women, loyalists, elite, and poor Americans. The course also examines the formation of the new national government. Graduate degree credit will not be given for both HIST 4623 and HIST 5623.

**HIST 5633. Heian Japan 794-1192 (Irregular). 3 Hours.**

(Formerly HIST 4633.) A study of courtly culture and the religious world of Heian Japan. Graduate degree credit will not be given for both HIST 4633 and HIST 5633.

**HIST 5643. Early American Republic, 1789-1828 (Irregular). 3 Hours.**

(Formerly HIST 4643.) History of the early United States emphasizing social and cultural perspectives. Topics addressed will include westward expansion, slavery, religion, and economic change. Graduate degree credit will not be given for both HIST 4643 and HIST 5643.

**HIST 5653. Antebellum America, 1828-1850 (Irregular). 3 Hours.**

(Formerly HIST 4653.) History of antebellum U.S. emphasizing social and cultural perspectives. Topics addressed will include slavery, religion, gender, the market economy, regionalism, and political developments. Graduate degree credit will not be given for both HIST 4653 and HIST 5653.

**HIST 5663. Rebellion to Reconstruction, 1850-1877 (Irregular). 3 Hours.**

(Formerly HIST 4663.) A survey of political, social, and economic issues from the late antebellum period through Reconstruction. Emphasis is placed on the causes of the Civil War and the problems of postwar America. A brief examination of the Civil War is included. Graduate degree credit will not be given for both HIST 4663 and HIST 5663.

**HIST 5673. The American Civil War (Fa). 3 Hours.**

(Formerly HIST 4673.) An intensive study of the political, social, military, and economic aspects of the American Civil War period. Graduate degree credit will not be given for both HIST 4673 and HIST 5673.

**HIST 5683. The American Civil Rights Movement (Irregular). 3 Hours.**

(Formerly HIST 4383.) Introduction to the history and development of the civil rights movement in the United States. Graduate degree credit will not be given for both HIST 4383 and HIST 5683.



**HIST 5693. Late Middle Ages (Odd years, Sp). 3 Hours.**

(Formerly HIST 4053.) This course examines the political, social-economic, intellectual, and spiritual developments of European history, c. 1000-1400 CE. Special topics include monasticism, sacral kingship, the crusades, and the medieval university. Graduate degree credit will not be given for both HIST 4053 and HIST 5693.

**HIST 570V. Special Topics (Irregular). 1-6 Hour.**

Prerequisite: Graduate standing. May be repeated for up to 9 hours of degree credit.

**HIST 5713. Islamic Theology and Philosophy, 650-1700 (Irregular). 3 Hours.**

(Formerly HIST 4313.) Doctrines and main figures in Islamic theology and philosophy from the origins of Islam through the seventeenth century C.E. Graduate degree credit will not be given for both HIST 4313 and HIST 5713.

**HIST 5723. America Between the Wars, 1917-1941 (Irregular). 3 Hours.**

(Formerly HIST 4723.) The impact of World War I, the 1920s, and the Great Depression upon American society and culture. Graduate degree credit will not be given for both HIST 4723 and HIST 5723.

**HIST 573V. Readings in Global History (Irregular). 1-6 Hour.**

Directed readings in the field of Global history. Prerequisite: Graduate standing. May be repeated for up to 12 hours of degree credit.

**HIST 5753. Diplomatic History of the United States, 1776-1900 (Even years, Fa). 3 Hours.**

(Formerly HIST 4753.) Survey of American foreign relations from the American Revolution through the Spanish-American War. Principal topics include isolationism, freedom of the seas, manifest destiny and continental expansion, overseas expansion, and the diplomacy of war and peace. Emphasis on the relationship between domestic politics and foreign affairs. Graduate degree credit will not be given for both HIST 4753 and HIST 5753. Prerequisite: HIST 2003.

**HIST 5763. Diplomatic History of the United States, 1900-1945 (Odd years, Sp). 3 Hours.**

(Formerly HIST 4763.) America's development as a world power. The course examines U.S. relations with Europe, Latin America, and East Asia, plus America's first approach to the Middle East. Particular emphasis is placed on America's involvement in World War I and World War II. Graduate degree credit will not be given for both HIST 4763 and HIST 5763. Prerequisite: HIST 2013.

**HIST 5773. Diplomatic History of the US, 1945 to Present (Odd years, Fa). 3 Hours.**

(Formerly HIST 4773.) U.S. involvement in world affairs since WWII. The Cold War from an international perspective, including strategies, nuclear deterrence, conflicts, economic developments, cultural relations among allies and adversaries. Post-Cold War scenarios, including war on terrorism. Graduate degree credit will not be given for both HIST 4773 and HIST 5773.

**HIST 5783. History of Modern Mexico (Odd years, Sp). 3 Hours.**

(Formerly HIST 4783.) This course examines the history of Mexico from the wars of independence to the present. Emphasis will be placed on the turbulent nineteenth century and the Mexican Revolution. Themes covered include colonial legacies, national identities, popular culture, emigration, and relations with the United States. Graduate degree credit will not be given for both HIST 4783 and HIST 5783.

**HIST 5793. Colonial India, 1758-1948 (Irregular). 3 Hours.**

(Formerly HIST 4793.) Examines the course of Indian history from the 1758 Battle of Plassey to eventual independence from Great Britain in 1948. Special attention is given to India's place within the British Empire, particularly the East Indian Company, the Indian Mutiny, the Raj, the rise of Gandhi, and India's independence movement. Graduate degree credit will not be given for both HIST 4793 and HIST 5793.

**HIST 5803. Modern Scandinavia (Irregular). 3 Hours.**

(Formerly HIST 4803.) Examines the history of the Nordic lands, including Denmark, Finland, Iceland, Norway, and Sweden, from 1500 to the present. Graduate degree credit will not be given for both HIST 4803 and HIST 5803.

**HIST 5813. Africans and Slavery in Colonial Latin America (Irregular). 3 Hours.**

(Formerly HIST 4813.) Explores the diverse experiences of slaves and free Blacks in colonial Spanish and Portuguese America from 1500 to around 1888, demonstrating that bondage and the practice of African slavery was a pillar of political authority in colonial Latin America. Graduate degree credit will not be given for both HIST 4813 and HIST 5813.

**HIST 5823. Black Freedom in the Age of Emancipation. 3 Hours.**

(Formerly HIST 4823.) This course centers on the comparative study of Atlantic World freedom movements from the perspective of the African Diaspora. It focuses on the histories, meanings, legacies of the various types of black emancipation in the Atlantic World and the cultural technologies that enabled them. Graduate degree credit will not be given for both HIST 4823 and HIST 5823.

**HIST 5833. Social and Cultural History of the Modern Middle East (Irregular). 3 Hours.**

(Formerly HIST 4433.) An analysis of Middle East history in the 17th-20th centuries which focuses on the social transformation of urban and rural life. Particular emphasis is given to the roles of economics, genealogy, art, and popular culture. Graduate degree credit will not be given for both HIST 4433 and HIST 5833.

**HIST 5843. The Atlantic World, 1400-1850 (Irregular). 3 Hours.**

(Formerly HIST 4233.) Explores the political, economic, cultural, and social engagement of Africans, Europeans, and Native Americans across the Atlantic from 1400 to 1850. It uses a comparative lens to understand how interactions between Europe, Africa, and the Americas created enduring ties throughout the Atlantic Basin. Graduate degree credit will not be given for both HIST 4233 and HIST 5843.

**HIST 5853. Early Chinese Empires: Mythology, Archeology, and Historiography (Sp). 3 Hours.**

(Formerly HIST 4853.) A critical introduction to the most important sources and major themes, both textual and archeological, for the study of early China. Graduate degree credit will not be given for both HIST 4853 and HIST 5853.

**HIST 5863. Classical Thought in East Asia (Fa). 3 Hours.**

(Formerly HIST 4863.) Introduces the major East Asian philosophical and religious traditions including Confucianism, Daoism, Buddhism, and Shintoism. Read original sources in translation, such as Analects, and explore perspectives that stem from the traditions as they bear on contemporary global issues. Graduate degree credit will not be given for both HIST 4863 and HIST 5863.

**HIST 5873. Germany since 1945. 3 Hours.**

(Formerly HIST 4873.) Examines the history of Germany since the end of the Second World War including political division and economic recovery, dissident movements in East Germany and alternative cultures in West Germany, reunification in 1990, and the legacy of Nazism and the Holocaust. Graduate degree credit will not be given for both HIST 4873 and HIST 5873.

**HIST 5883. Health and Disease: 1500 to the Present (Irregular). 3 Hours.**

(Formerly HIST 4883.) Explores the emergence of epidemics against the backdrop of the nation state and anxieties over women, the lower classes, and other marginalized groups. The rise of modern health programs illuminates the cultural construction of medicine, the biases of scientific inquiry, and the tensions among paternalism, liberty, and prejudice. Graduate degree credit will not be given for both HIST 4883 and HIST 5883.

**HIST 5893. Germany, 1918-1945 (Irregular). 3 Hours.**

(Formerly HIST 4253.) Study of German history from advent of the Weimar Republic to the end of the Third Reich with emphasis upon the failure of democratic government in the 1920s and the rise and fall of the National Socialist dictatorship. Graduate degree credit will not be given for both HIST 4253 and HIST 5893.

**HIST 5903. Music and the Arts of Edo Japan 1600-1868 (Irregular). 3 Hours.**

(Formerly HIST 4903.) A music and arts view of urban and popular culture of the Edo period of Japan (1600-1868). Readings drawn from history, literature, aesthetics, religion and science. Graduate degree credit will not be given for both HIST 4903 and HIST 5903.

**HIST 5913. Reading Japanese Noh as Cultural History (Irregular). 3 Hours.**

(Formerly HIST 4913.) A historical, sociocultural, and inter-arts approach to the medieval lyric-drama Japanese Noh, a form of masked theater with roots reaching beyond the 14th century. Graduate degree credit will not be given for both HIST 4913 and HIST 5913.

**HIST 5923. Song China 960-1279 (Irregular). 3 Hours.**

(Formerly HIST 4923.) Examination of the Song dynasty (960-1279) concentrating on the education and role of the scholar-official and the literatus. Readings drawn from history, literature, personal diaries, travel accounts, political memoranda, and scientific writings. Graduate degree credit will not be given for both HIST 4923 and HIST 5923.

**HIST 5933. Ad Paradisum: Utopias, imaginary places, and the afterlife in East Asia (Irregular). 3 Hours.**

(Formerly HIST 4933.) Confucian, Daoist, and Buddhist ideas of ideal communities ('utopias'), of imaginary places ('paradise islands'), and of the afterlife ('heaven and hell') in East Asia will be traced in a broad sweep across literature, painting, and the performing arts. Graduate degree credit will not be given for both HIST 4933 and HIST 5933.

**HIST 5943. U.S. Labor History, from 1877-present (Even years, Sp). 3 Hours.**

(Formerly HIST 4943.) This course will examine the changing nature of work in U.S. history from 1877 until the present. It will pay particular attention to the ways that workers--individually and collectively--understand the meanings of their labor and to the ways that notions of class, gender, ethnicity, and race inform these understandings. Graduate degree credit will not be given for both HIST 4943 and HIST 5943.

**HIST 5953. The History of Sub-Saharan African Women (Irregular). 3 Hours.**

(Formerly HIST 4953.) Introduction to the history of women in Sub-Saharan Africa, starting in the early 18th century through the 20th century. Focus on women and the transatlantic slave trade, women's influence in pre-colonial religious, political, and cultural institutions, and women's experiences under colonial rule and in post-colonial Africa. Graduate degree credit will not be given for both HIST 4953 and HIST 5953.

**HIST 5963. Third World Underdevelopment and Modernization (Irregular). 3 Hours.**

(Formerly HIST 4963.) Examines key issues related to societal change in the Third World, including various views and theories of international development and modernization. Other major issues explored include social inequalities, food and hunger, population, environment, trade and globalization, international aid, and the roles of state, market, and civil society. Graduate degree credit will not be given for both HIST 4963 and HIST 5963.

**HIST 5973. The Civilization of the Renaissance in Italy (Irregular). 3 Hours.**

Important trends in Italian culture between the 14th and 16th centuries, including the birth of humanism, new understandings of the past, "new" political ideologies, scientific innovation, and famous art produced in the Western tradition.

**HIST 5983. Intellectual History of Europe Since the Enlightenment (Even years, Fa). 3 Hours.**

(Formerly HIST 4143.) A survey of the major developments in European thought and culture since the emergence of Romanticism. Topics include Romanticism, Darwinism, Marxism, and Modernism. Graduate degree credit will not be given for both HIST 4143 and HIST 5983.

**HIST 5993. Modern Ireland, 1798-1948 (Irregular). 3 Hours.**

(Formerly HIST 4153.) Examines the course of Irish history from the 1798 United Irishmen rebellion to the 1948 declaration of the Republic of Ireland. Special attention is given to Catholic emancipation, the Great Famine, the Home Rule movements, the Irish War of Independence, and the Emergency (Second World War). Graduate degree credit will not be given for both HIST 4153 and HIST 5993.

**HIST 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Master's Thesis. Prerequisite: Graduate standing. May be repeated for degree credit.

**HIST 6013. The Era of the French Revolution (Odd years, Fa). 3 Hours.**

(Formerly HIST 4213.) France from the salons of the Enlightenment to the Napoleonic Wars. The French Revolution will be explored in terms of politics and personalities, ideas and symbols, class and gender relations, and violence and terror. Graduate degree credit will not be given for both HIST 4213 and HIST 6013.

**HIST 6033. Society and Gender in Modern Europe (Odd years, Sp). 3 Hours.**

(Formerly HIST 4133.) Changing values and attitudes toward childhood, family life, sexuality, and gender roles in Europe from the Renaissance to the present. The social impact of the Industrial Revolution, urbanization, demographic change, and the two world wars. Graduate degree credit will not be given for both HIST 4133 and HIST 6033.

**HIST 6063. Tudor-Stuart England, 1485-1714 (Even year, Sp). 3 Hours.**

(Formerly HIST 4163.) Examines the history of the British Isles from the ascension of Henry VII and the Tudor dynasty until the close of the Stuart Era in 1714. Special attention is given to the English Reformation, the Elizabethan years, the 17th Century Revolutions, and the birth of an overseas Empire. Graduate degree credit will not be given for both HIST 4163 and HIST 6063.

**HIST 6073. Renaissance and Reformation, 1300-1600 (Even years, Fa). 3 Hours.**

(Formerly HIST 4073.) Examines the history of Europe from the end of the Middle Ages through the Renaissance to the Reformation and Counter-Reformation. Special attention is paid to changes in popular piety, political thought, religious representation, and the discovery of the New World. Graduate degree credit will not be given for both HIST 4073 and HIST 6073.

**HIST 6083. Early Modern Europe, 1600-1800 (Odd years, Sp). 3 Hours.**

(Formerly HIST 4083.) Begins with the upheaval of the reformation, moves through the crisis of the 17th century and culminates with the democratic revolution of the 18th century. Examines the consolidation of the European state system, the propagation of modern science, discovery of overseas worlds, and the advent of the Industrial Revolution. Graduate degree credit will not be given for both HIST 4083 and HIST 6083.

**HIST 6093. The History of African Americans and Social Justice (Irregular). 3 Hours.**

(Formerly HIST 4093.) Explores how the United States has extended social justice to African Americans during the nation's history. Examines social justice for blacks and the impact of historic policies and practices on black life today. Graduate degree credit will not be given for both HIST 4093 and HIST 6093.

**HIST 6113. Archaic Greece (Irregular). 3 Hours.**

(Formerly HIST 4113.) History of Greece from the late Bronze Age to the end of the Persian Wars. This class will focus particularly on the sources involved with reconstructing early Greek history, especially Herodotus and Homer, on the development of the Greek city-state or polis, and on the interaction between the Greeks and Near-eastern civilizations during this period, culminating in the wars between the Greeks and the Persian Empire. Graduate degree credit will not be given for both HIST 4113 and HIST 6113.

**HIST 6173. The Latin American City (Irregular). 3 Hours.**

(Formerly HIST 4173.) This course examines the social, political, and cultural aspects of the modern Latin American city from an interdisciplinary perspective. The course includes an introduction to urban studies concepts, and each semester is organized around a specific set of case studies. Graduate degree credit will not be given for both HIST 4173 and HIST 6173.

**HIST 6183. Great Britain 1707-1901 (Even years, Fa). 3 Hours.**

(Formerly HIST 4183.) Examines the history of the British Isles from the 1707 Act of Union between Scotland and England until the death of Queen Victoria in 1901. Special attention is given to the spread of Empire, industrialization, and the political, social, and cultural aspects of the Georgian and Victorian Eras. Graduate degree credit will not be given for both HIST 4183 and HIST 6183.

**HIST 6203. Byzantine Empire (Irregular). 3 Hours.**

(Formerly HIST 4103.) Examines the history and culture of the Byzantine Empire from the reign of Constantine I to the fall of Constantinople in 1453. Topics include the development of Christianity and the schism with the western church, the crusades, and Byzantine influence on Islam, Russia, the Ottomans, and the Renaissance. Graduate degree credit will not be given for both HIST 4103 and HIST 6203.

**HIST 6223. France Since 1815 (Even years, Sp). 3 Hours.**

(Formerly HIST 4223.) Survey of French history from the overthrow of Napoleon to the 5th Republic, with emphasis on French politics, society, and culture. Graduate degree credit will not be given for both HIST 4223 and HIST 6223.

**HIST 6243. Germany, 1789-1918 (Irregular). 3 Hours.**

(Formerly HIST 4243.) Study of German history from the Age of Absolutism to the collapse of the German Empire at the end of the First World War. Special attention is paid to the Enlightenment and Romantic movements; nationalism and the unification of Germany; and evolving conflicts over the political and social order. Graduate degree credit will not be given for both HIST 4243 and HIST 6243.

**HIST 6263. Independence and Africa Today (Sp). 3 Hours.**

(Formerly HIST 4263.) Examines the last half-century of Africa's history, focusing on the last few decades. Introduction of Africa's colonial past, revolutions and struggles for independence. Review of African development in the post-colonial and contemporary era, successes and failures of independent Africa, and the challenges the continent faces today. Graduate degree credit will not be given for both HIST 4263 and HIST 6263.

**HIST 6273. Comparative Slavery (Irregular). 3 Hours.**

(Formerly HIST 4273.) Explores the meaning of slavery around the world, both in ancient and modern times. This examination of how slavery differed in various cultures over time will allow students to explore the complexity of this labor relationship and gain a better understanding of how slavery was an integral part of world history. Graduate degree credit will not be given for both HIST 4273 and HIST 6273.

**HIST 6303. Transatlantic Relations, 1919-Present (Irregular). 3 Hours.**

(Formerly HIST 4303.) US-Western European Relations, from the Wilsonian era to the present, covering strategic, economic, and cultural aspects. Graduate degree credit will not be given for both HIST 4303 and HIST 6303.

**HIST 6333. Modern Islamic Thought (Irregular). 3 Hours.**

(Formerly HIST 4333.) Main currents in Islamic theology and political philosophy from the Ottoman Empire to the end of the twentieth century. Graduate degree credit will not be given for both HIST 4333 and HIST 6333.

**HIST 6343. Golden Age Portugal and Spain (Irregular). 3 Hours.**

(Formerly HIST 4343.) This course will examine the diverging and converging paths of Portugal and Spain during the early modern period (15th-17th centuries). We will chart their rise as global imperial powers and their initial declines. We'll explore the political, social, and religious contexts in which Golden Age Iberia flourished. Graduate degree credit will not be given for both HIST 4343 and HIST 6343.

**HIST 6463. The American Frontier (Odd years, Fa). 3 Hours.**

(Formerly HIST 4463.) American westward expansion and its influence on national institutions and character. Emphasis on the pioneer family and the frontier's role in shaping American society, culture, economy, and politics. Topics include exploration, the fur trade, the cattle kingdom and the mining, farming, and military frontiers. Graduate degree credit will not be given for both HIST 4463 and HIST 6463.

**HIST 6473. Environmental History (Irregular). 3 Hours.**

(Formerly HIST 4473.) Examines the interactions between human culture and the natural environments: Concepts of nature in the West and elsewhere, dynamics of the Physical Environment, case studies in Regional Environmental History and the Politics of Environmental movements. Graduate degree credit will not be given for both HIST 4473 and HIST 6473.

**HIST 6513. New Women in the Middle East (Irregular). 3 Hours.**

(Formerly HIST 4413.) This course covers the transformation of social and cultural roles of women in the Middle East since the 19th Century. Emphases include political emancipation, religious reformation, artistic representation, and gendered re-definition. Graduate degree credit will not be given for both HIST 4413 and HIST 6513.

**HIST 6523. Wars of Religion: From the Crusades to 9/11 (Irregular). 3 Hours.**

(Formerly HIST 4323.) Examines the place of religion in combat across the centuries. A case study approach is used to explore different conflicts from the twelfth century crusades against Muslim forces to 9/11. Investigates how religious motivations may or may not be related to other political, social, cultural, economic concerns. Graduate degree credit will not be given for both HIST 4323 and HIST 6523.

**HIST 6543. Late Antiquity and the Early Middle Ages (Even years, Fa). 3 Hours.**

(Formerly HIST 4043.) This course examines the political, spiritual, intellectual, and social-economic developments of European history, c. 300-1000 CE. Special topics include the Christianization of the late Roman Empire and Byzantium, as well as the formation of Celtic and Germanic Kingdoms in the West. Graduate degree credit will not be given for both HIST 4043 and HIST 6543.

**HIST 6553. Middle East, 600-1250 (Even years, Fa). 3 Hours.**

(Formerly HIST 4353.) An examination of the origins of modern Middle Eastern societies-Arabic, Turkish, and Persian-with emphasis upon the development of the Islamic faith and culture. Graduate degree credit will not be given for both HIST 4353 and HIST 6553.

**HIST 6563. The Middle East since 1914 (Irregular). 3 Hours.**

(Formerly HIST 4363.) Middle East since 1914 addresses European colonialism, the rise of new social elites, independence, revolution, globalization, economic self-determination, persistent regional conflicts and ongoing battles over "cultural authenticity". Graduate degree credit will not be given for both HIST 4363 and HIST 6563.

**HIST 6623. Africa and the Trans-Atlantic Slave Trade (Irregular). 3 Hours.**

(Formerly HIST 4123.) Examines the trans-Atlantic slave trade with a primary focus on the role of Africa and Africans in creating the unique economy and culture of the trans-Atlantic world. Graduate degree credit will not be given for both HIST 4123 and HIST 6623.

**HIST 6643. Frontiers and Borderlands in Colonial Latin America (Irregular). 3 Hours.**

(Formerly HIST 4443.) This course examines frontiers and borderlands in colonial Latin America and focuses on the regions of California, New Mexico, Texas, Brazil, and the Río de la Plata. It demonstrates that frontiers and borderlands are defined by the absence of a hegemonic European power and associated with the prevalence of Indigenous norms. Graduate degree credit will not be given for both HIST 4443 and HIST 6643.

**HIST 6673. Mongol & Mamluk Middle East 1250-1520 (Even years, Sp). 3 Hours.**

(Formerly HIST 4373.) An examination of Egypt, the Fertile Crescent, and Iran in the period of the Turco-Mongol military elites. Special attention given to the rise of slave and free governments and their roles in shaping Middle East political and social patterns. Graduate degree credit will not be given for both HIST 4373 and HIST 6673.

**HIST 6703. Emergence of Modern America, 1876-1917 (Odd years, Fa). 3 Hours.**

(Formerly HIST 4703.) A survey of the impact of the Industrial Revolution, Imperialism, and progressivism upon American life and institutions. Graduate degree credit will not be given for both HIST 4703 and HIST 6703.

**HIST 6733. Recent America, 1941 to the Present (Irregular). 3 Hours.**

(Formerly HIST 4733.) A general survey of American history since World War II with emphasis upon the presidency, reform movements, the Cold War, and cultural developments. Graduate degree credit will not be given for both HIST 4733 and HIST 6733.

**HIST 6743. The Cold War in Latin America: Revolutions, Violence, and Politics (Irregular). 3 Hours.**

(Formerly HIST 4743.) This course will trace the rise of the ideological and political struggles over social and economic development and the security regimes designed to thwart socialist revolution and political mobilization. The influence of the United States in Latin American security regimes and "containment" activities will receive special attention. Graduate degree credit will not be given for both HIST 4743 and HIST 6743.

**HIST 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Independent research and writing leading to the completion of a doctoral dissertation. Prerequisite: Graduate standing. May be repeated for degree credit.

**HIST 7023. Historical Methods (Fa). 3 Hours.**

(Formerly HIST 5023.) Practical introduction to historical research and writing. Consists of lecture, library reading, and class criticism of research papers. Prerequisite: Graduate standing. This course is equivalent to HIST 6023.

**HIST 7043. Historiography (Irregular). 3 Hours.**

(Formerly HIST 5043.) Survey of the history of historical writing and a study of the important schools and historical interpretation. Prerequisite: Graduate standing. This course is equivalent to HIST 6043.

**HIST 7053. Reading Seminar in Asian History (Irregular). 3 Hours.**

(Formerly HIST 5053.) Concentrated reading in selected specialized areas of Asian history. Prerequisite: Advanced graduate standing. May be repeated for up to 30 hours of degree credit. This course is equivalent to HIST 6053.

**HIST 7103. Reading Seminar in American History (Irregular). 3 Hours.**

(Formerly HIST 5103.) Historiographical and bibliographical study of special areas of U.S. history, such as Antebellum America, the Civil War, etc. Prerequisite: Graduate standing. May be repeated for up to 30 hours of degree credit. This course is equivalent to HIST 6103.

**HIST 7123. Research Seminar in American History (Irregular). 3 Hours.**

(Formerly HIST 5123.) Research projects in selected fields of American history, such as the Civil War, Antebellum America, etc. Prerequisite: Graduate standing. May be repeated for up to 30 hours of degree credit. This course is equivalent to HIST 6123.

**HIST 7133. Reading Seminar in European History (Irregular). 3 Hours.**

(Formerly HIST 5133.) Historiographical and bibliographical study of special periods in European history, such as the Roman Empire, the late Middle Ages, the French Revolution, etc. Prerequisite: Graduate standing. May be repeated for up to 30 hours of degree credit. This course is equivalent to HIST 6133.

**HIST 7143. Research Seminar in European History (Irregular). 3 Hours.**

(Formerly HIST 5143.) Research projects in selected fields of European history, such as the French Revolution, humanism, etc. Prerequisite: Graduate standing. May be repeated for up to 30 hours of degree credit. This course is equivalent to HIST 6143.

**HIST 7153. Reading Seminar in British History (Irregular). 3 Hours.**

(Formerly HIST 5153.) Historiographical and bibliographical study of selected periods of British history. May be repeated for up to 30 hours of degree credit. This course is equivalent to HIST 6153.

**HIST 7163. Research Seminar in British History (Irregular). 3 Hours.**

(Formerly HIST 5163.) Research projects in selected fields of British history. May be repeated for up to 30 hours of degree credit. This course is equivalent to HIST 6163.

**HIST 7213. Reading Seminar in Middle Eastern History (Irregular). 3 Hours.**

(Formerly HIST 5213.) Historiographical and bibliographical study of special areas of Middle Eastern history. Prerequisite: Graduate standing. May be repeated for up to 30 hours of degree credit. This course is equivalent to HIST 6213.

**HIST 7233. Research Seminar in Middle Eastern History (Irregular). 3 Hours.**

(Formerly HIST 5233.) Research projects in selected fields of Middle Eastern history. Prerequisite: Graduate standing. May be repeated for up to 30 hours of degree credit. This course is equivalent to HIST 6233.

**HIST 7313. Reading Seminar in Latin American History (Irregular). 3 Hours.**

(Formerly HIST 5313.) Historiographical and bibliographical study of special areas in Latin American history. Prerequisite: Graduate standing. May be repeated for up to 30 hours of degree credit. This course is equivalent to HIST 6313.

**HIST 7323. Research Seminar in Latin American History (Irregular). 3 Hours.**

(Formerly HIST 5323.) A research seminar for the production of a major research project in Latin American history. Prerequisite: Graduate standing. May be repeated for up to 30 hours of degree credit. This course is equivalent to HIST 6323.

**HIST 7353. Reading Seminar in Medieval History (Irregular). 3 Hours.**

(Formerly HIST 5353.) Historiographical and bibliographical study of special areas in medieval history. Prerequisite: Graduate standing. May be repeated for up to 30 hours of degree credit. This course is equivalent to HIST 6353.

**HIST 7363. Research Seminar in Medieval History (Irregular). 3 Hours.**

(Formerly HIST 5363.) A research seminar for the production of a major research project in medieval history. Prerequisite: Graduate standing. May be repeated for up to 30 hours of degree credit. This course is equivalent to HIST 6363.

**HIST 7373. Reading Seminar in Ancient History (Irregular). 3 Hours.**

(Formerly HIST 5373.) Historiographical and bibliographical study of special areas in ancient history. Prerequisite: Graduate standing. May be repeated for up to 30 hours of degree credit. This course is equivalent to HIST 6373.

**HIST 7383. Research Seminar in Ancient History (Irregular). 3 Hours.**

(Formerly HIST 5383.) A research seminar for the production of a major research project in ancient history. Prerequisite: Graduate standing. May be repeated for up to 30 hours of degree credit. This course is equivalent to HIST 6383.

**HIST 7413. Reading Seminar in African History (Irregular). 3 Hours.**

(Formerly HIST 5413.) Historiographical and bibliographical study of selected periods and/or topics in African history. Prerequisite: Graduate standing. May be repeated for up to 30 hours of degree credit. This course is equivalent to HIST 6413.

**HIST 7423. Research Seminar in African History (Irregular). 3 Hours.**

(Formerly HIST 5423.) A seminar for the production of a major research project in selected fields of African history. Prerequisite: Graduate standing. May be repeated for up to 30 hours of degree credit. This course is equivalent to HIST 6423.

**HIST 7433. Reading Seminar in Caribbean History (Irregular). 3 Hours.**

(Formerly HIST 5433.) Historiographical and bibliographical study of special areas in Caribbean history. Prerequisite: Graduate standing. May be repeated for up to 30 hours of degree credit.

This course is equivalent to HIST 6433.

**HIST 7443. Research Seminar in Caribbean History (Irregular). 3 Hours.**

(Formerly HIST 5443.) A research seminar for the production of a major research project in Caribbean history. Prerequisite: Graduate standing. May be repeated for up to 30 hours of degree credit.

This course is equivalent to HIST 6443.

**HIST 7453. Reading Seminar in Global History (Irregular). 3 Hours.**

Graduate seminar adopting global perspectives on Europe, US, Asia, Africa, Latin America. Decentering narratives focusing on regional approaches, the course examines the global implications of various historical developments. May be repeated for up to 6 hours of degree credit.

This course is equivalent to HIST 6453.

## Honors College (HNRC)

### Courses

**HNRC 300VH. Honors College Forum (Irregular). 1-3 Hour.**

The Honors College Forum centers on contemporary issues sparking intense national and international media scrutiny. Faculty experts partner with honors students in a seminar-style, discussion format. Topics vary by semester. Pre- or Corequisite: Honors standing. Prerequisite: Departmental consent. May be repeated for up to 6 hours of degree credit.

**HNRC 301VH. Honors College Retro Readings (Irregular). 1-3 Hour.**

Honors College Retro Readings centers on classic authors read through a contemporary lens. Faculty experts partner with honors students from all undergraduate colleges in a seminar-style discussion format. Topics vary by semester. Pre- or Corequisite: Honors standing. Prerequisite: Departmental consent. May be repeated for up to 6 hours of degree credit.

**HNRC 4013H. Honors College Signature Seminar (Sp, Fa). 3 Hours.**

The Honors College Signature Seminar Series features leading scholars who will offer courses bridging multiple colleges and having broad appeal. These signature seminars will develop from the current research of the faculty who offer them, thereby inviting honors students into their scholarly world at a very high level. The goal of the signature seminar series is to spark undergraduate research projects and to stimulate career trajectories, including nationally competitive fellowships and/or admittance to graduate and professional programs. Topics vary by semester. Eligible students must be in good standing in the Honors College. Pre- or Corequisite: Honors standing. Prerequisite: Departmental consent. May be repeated for up to 6 hours of degree credit.

**HNRC 403VH. Honors College International Research (Irregular). 3-6 Hour.**

The Honors College International Research hours are intended for undergraduates who have already begun their research on campus and will travel abroad for a significant period of time to enhance and extend this research. An on-campus faculty mentor and a research mentor on-site are required. Prerequisite: Departmental consent. Pre or Corequisite: Honors standing.

## Horticulture (HORT)

### Courses

**HORT 1103. Plants in the Home Environment (Fa). 3 Hours.**

A course describing the aesthetic, nutritional and health value, and other importance of plants to humans. The course will highlight the use and importance of plants and gardening through the ages, study significant gardens to humankind, and introduce students to using plants to their benefit. The use of color, texture, aroma and flavor in the home and landscape will be presented. Basic home gardening, plant care and use will be discussed and practiced.

**HORT 1303. Introduction to Floral Design (Sp). 3 Hours.**

Students in this introductory class in Floral Design will learn basic design elements such as line, form, mass, balance, texture and color as used in floral art. Students will gain an appreciation of the various types and species of flowers and foliage used in various floral arrangements such as bouquets and centerpieces. In addition, students will learn common post-harvest handling techniques of fresh cut floral plant material to prolong vase-life from the purchasing stage to the final design.

**HORT 2003. Principles of Horticulture (Sp). 3 Hours.**

A course introducing students to the biological and technologies underlying the propagation, production, handling and use of horticultural crops, turf and landscape plants. Students will be introduced to the various disciplines and commodities of horticulture. The use of plants for the benefit of humankind because of their aesthetic and nutritional value will be explored. Previous instruction in Plant Science, Plant Biology, or general Botany is strongly encouraged. Corequisite: Lab component.

**HORT 2303. Introduction to Turfgrass Management (Fa). 3 Hours.**

An introductory course in turfgrass management emphasizing turfgrass growth, adaptation, and management. Methods for establishment, fertilization, mowing, cultivation, irrigation, and pest management are presented, and their impact on culture of lawns, golf courses, athletic fields, and other managed turf areas discussed.

**HORT 3103. Woody Landscape Plants (Fa). 3 Hours.**

Identification, climatic adaptation and landscape design values of woody ornamental trees, shrubs and vines. Lecture 2 hours per week. Corequisite: Lab component.

**HORT 3113. Herbaceous and Indoor Plant Materials (Odd years, Sp). 3 Hours.**

Identification, culture, and use of annuals, perennials in landscapes and foliage plants in interiors. Lecture 2 hours, laboratory 2 hours per week. Corequisite: Lab component.

**HORT 3123. International Horticulture (Sp). 3 Hours.**

Considerable globalization of agriculture has occurred over the past several decades, especially in the area of horticultural crops. This course provides a base of knowledge of the international horticulture industry focusing on principles and practices of development and trade of horticultural crops.

**HORT 3203. Sustainable Landscape Practices (Fa). 3 Hours.**

New methods of landscape management are required to restore or protect the ecological services provided by developed landscapes. This course is focused on methods for sustainable land management. Included as part of the curriculum is a survey of sustainable management as it applies to site resources, including water, nutrients, energy and biodiversity. Retrofitting existing development, organic lawn, tree, and shrub care, successional landscapes, permaculture, sustainable material selection, and best available equipment will be covered in depth. Prerequisite: HORT 2003.

**HORT 3303. Vegetable Crops (Irregular). 3 Hours.**

General course in vegetable crops with attention to the principles underlying methods of production and handling related to yields and quality of the products. Lecture 2 hours, laboratory 2 hours per week. Prerequisite: HORT 2003 and CSES 2203.

**HORT 3403. Turfgrass Management (Even years, Sp). 3 Hours.**

Cultural and management practices of commercial and residential lawns. Principles and practices of mowing, fertilizing, irrigating, and control of weed, disease, and insects. Identification of turfgrass; equipment selection. Corequisite: Lab component. Prerequisite: HORT 2303.

**HORT 3503. Sustainable and Organic Horticulture (Even years, Fa). 3 Hours.**

This course will provide a base of knowledge of the principles and practices of sustainable, organic, and alternative horticulture management systems. The class will review and evaluate topics including soil biological processes (compost, humus and fertility), pest management, alternative farming systems, and organic agriculture. After this foundation information is studied, the class will study applications of sustainable agriculture principles to production systems such as greenhouse vegetable production, ornamental production, fruit production, and landscape and turf management.

**HORT 3901. Horticultural Career Development (Sp). 1 Hour.**

A course which presents concepts necessary for developing a career and becoming a professional in horticulture industries or businesses. Concepts of goal setting, effective communication and interpersonal skills, behaviors and performance, portfolio and resume, development and job hunting skills will be presented.

**HORT 400V. Special Problems (Sp, Su, Fa). 1-6 Hour.**

Original investigations on assigned problems in horticulture. Prerequisite: Junior standing. May be repeated for up to 6 hours of degree credit.

**HORT 401V. Special Topics in Horticulture, Turf or Landscape (Irregular). 1-6 Hour.**

Topics related to horticulture, turfgrass or landscape science or management not covered in other courses or a more intensive study of a specific topic. May be repeated for degree credit.

**HORT 402V. Horticulture Judging and Competition Activity (Irregular). 1-6 Hour.**

Training for and participation on horticultural identification, judging and competitive teams. Prerequisite: HORT 2003. May be repeated for up to 6 hours of degree credit.

**HORT 4033. Professional Landscape Installation and Construction (Even years, Fa). 3 Hours.**

Principles and practices involved in landscape installation and construction. Topics covered include sequencing construction activities, protecting existing trees, landscape soils, selecting plants, planting and transplanting plant materials, wood construction, cement and masonry construction, and low-voltage lighting. Lecture 3 hours per week. Preparatory training in agribusiness or business is suggested. Prerequisite: HORT 2003.

**HORT 4043. Professional Landscape Management (Odd years, Fa). 3 Hours.**

Principles and practices of landscape management and maintenance. Topics include low maintenance and seasonal color design, pruning and hazard tree management, water and fertilizer management, pesticide use, and other maintenance activities. Basic elements of marketing, specifications and contracts, estimating, personnel management, and equipment selection and acquisition relevant for landscape services will be introduced. Preparatory training in agribusiness or business is suggested. Prerequisite: HORT 2003 and HORT 3103.

**HORT 4103. Fruit Production Science and Technology (Odd years, Sp). 3 Hours.**

The management technologies and cultural practices of fruit crops including (but not limited to) blueberries, blackberries, raspberries, strawberries, grapes, peaches, and apples will be presented. The underlying scientific principles of crop genetics, nutrition, and physiology will be presented as a basis for making management decisions in fruit crop productions. Corequisite: Lab component. Prerequisite: HORT 2003.

**HORT 4403. Plant Propagation (Sp). 3 Hours.**

Principles of plant propagation using seeds, cuttings, grafting, budding, layering, and tissue culture. The physiological basis of propagation is described. Knowledge of plant growth and physiology is needed. Lecture 2 hours, laboratory 2 hours per week. Corequisite: Lab component. Prerequisite: BIOL 1613 and BIOL 1611L.

**HORT 4413. Horticulture Physiology (Sp). 3 Hours.**

This course provides students with a background into the physiological processes of plants with an emphasis on horticultural crops and how the processes relate to horticultural crop production practices. Among the topics covered are photosynthesis, respiration, water relations and morphogenesis. Prerequisite: HORT 2003 and CHEM 1073.

**HORT 4503. Sustainable Nursery Production (Even years, Sp). 3 Hours.**

This course addresses issues and practices involved in production of quality woody nursery crops (e.g. trees and shrubs produced in open filed and containerized systems).

**HORT 4603. Practical Landscape Planning (Even years, Sp). 3 Hours.**

Ornamental planting design and landscape planning concepts. Preparing planting plans, materials sheets, and cost estimates for residential properties. Prerequisite: HORT 3103.

**HORT 462V. Horticulture, Landscape, Turf Sciences Internship (Sp, Su, Fa). 1-6 Hour.**

A supervised practical work experience in a horticulture, landscape design, or turf business or research program to gain professional competence and insight into employment opportunities. Prerequisite: COMM 1313. May be repeated for up to 6 hours of degree credit.

**HORT 4701L. Greenhouse Management and Controlled Environment Horticulture Laboratory (Odd years, Fa). 1 Hour.**

Laboratory involving hands-on experiments designed to demonstrate principles discussed in the lecture section. Includes field trips. Corequisite: HORT 4703.

**HORT 4703. Greenhouse Management and Controlled Environment Horticulture (Fa). 3 Hours.**

Operation and management of greenhouses and other controlled environments used in horticultural production. Emphasis on system design and construction, control of light intensity and photoperiod, heating and cooling systems, substrates, mineral nutrition, water quality and irrigation systems. Prerequisite: HORT 2003 and CHEM 1073.

**HORT 4801L. Greenhouse Crops Production Laboratory (Even years, Sp). 1 Hour.**

Laboratory involving hands-on experiments designed to demonstrate principles discussed in the lecture section. Includes field trips. Corequisite: HORT 4803.

**HORT 4803. Greenhouse Crops Production (Even years, Sp). 3 Hours.**

Principles and practices of production and marketing of crops commonly grown in controlled environments including flowering containerized herbaceous species, geophytes, annual and perennial bedding plants, hydroponic vegetables and herbs. Prerequisite: HORT 4703.

**HORT 4903. Golf and Sports Turf Management (Odd years, Fa). 3 Hours.**

Turf management techniques for golf courses, and athletic fields including species selection, root-zone construction and modification, fertilization, mowing, irrigation and pest control. Corequisite: Lab component. Prerequisite: CSES 2203 and CSES 2201L and (HORT 2303 or HORT 3403).

**HORT 4913. Rootzone Management for Golf and Sports Turf (Odd years, Sp). 3 Hours.**

An overview of the fundamental concepts of the physical and chemical properties of rootzones as related to construction and turfgrass management. Prerequisite: HORT 2303.

**HORT 4921. Golf Course Operations (Even years, Fa). 1 Hour.**

This course is designed to cover specific aspects of golf course operations that would not be included in traditional turfgrass management courses. Topics will include budgeting, personnel management, tournament setup and operation, dealing with golf club committees, communication, and other relevant topics related to managing a golf course maintenance operation. Prerequisite: HORT 4903.

**HORT 4932. Turf Best Management Practices (Odd years, Sp). 2 Hours.**

The course covers the impacts of turfgrass management practices on turf quality and the environment. In addition, the identification, biology, and control practices for the major insects, diseases, and weeds that infest turf will be covered. Emphasis will be placed on management strategies that include both chemical and non-chemical approaches to the prevention and control of common turfgrass pests. Prerequisite: HORT 2303 and 6 hours selected from CSES 2003, PLPA 3004, and ENTO 3013.

**HORT 5001. Seminar (Sp, Fa). 1 Hour.**

Review of scientific literature and oral reports on current research in horticulture. May be repeated for up to 4 hours of degree credit.

**HORT 501V. Special Topics in Horticulture, Turf or Landscape (Irregular). 1-6 Hour.**

(Formerly HORT 401V.) Topics related to horticulture, turfgrass or landscape science or management not covered in other courses or a more intensive study of a specific topic. Graduate degree credit will not be given for both HORT 401V and HORT 501V. May be repeated for degree credit.

**HORT 502V. Horticulture Judging and Competition Activity (Irregular). 1-6 Hour.**

(Formerly HORT 402V.) Training for and participation on horticultural identification, judging and competitive teams. Graduate degree credit will not be given for both HORT 402V and HORT 502V. Prerequisite: HORT 2003. May be repeated for up to 6 hours of degree credit.

**HORT 503V. Special Problems Research (Sp, Su, Fa). 1-6 Hour.**

Original investigations on assigned problems in horticulture. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

**HORT 5043. Advanced Plant Breeding (Odd years, Sp). 3 Hours.**

Application of genetic principles to the improvement of crop plants. Presentation of conventional plant breeding methods and special techniques such as polyploidy, interspecific hybridization and induced mutation. Lecture 3 hours per week. Prerequisite: BIOL 2323 and BIOL 2321L or (ANSC 3123 and CSES 4103).

**HORT 5103. Plant Growth and Development (Fa). 3 Hours.**

This course will focus on environmental and developmental processes of plant growth and development. A student completing this course should have an understanding of the developmental processes of plant growth and how environmental factors interact to affect and control plant growth and development.

**HORT 5113. Fruit Production Science and Technology (Odd years, Sp). 3 Hours.**

(Formerly HORT 4103.) The management technologies and cultural practices of fruit crops including (but not limited to) blueberries, blackberries, raspberries, strawberries, grapes, peaches, and apples will be presented. The underlying scientific principles of crop genetics, nutrition, and physiology will be presented as a basis for making management decisions in fruit crop productions. Graduate degree credit will not be given for both HORT 4103 and HORT 5113. Corequisite: Lab component. Prerequisite: HORT 2003.

**HORT 5143. Professional Landscape Management (Odd years, Fa). 3 Hours.**

Principles and practices of landscape management and maintenance. Topics include low maintenance and seasonal color design, pruning and hazard tree management, water and fertilizer management, pesticide use, and other maintenance activities. Basic elements of marketing, specifications and contracts, estimating, personnel management, and equipment selection and acquisition relevant for landscape services will be introduced. Preparatory training in agribusiness or business is suggested. Prerequisite: HORT 2003 and HORT 3103.

**HORT 5203. Temperature Stress Physiology (Sp). 3 Hours.**

This course will teach students how to apply biological, chemical and physical principles to models of how plants are damaged by temperature extremes and how they change to increase resistance. Student will apply these principles to better understand plant responses to other environmental challenges, including both biotic and abiotic stresses.

**HORT 530V. Special Problems (Sp, Su, Fa). 1-6 Hour.**

(Formerly HORT 400V.) Original investigations on assigned problems in horticulture. Graduate degree credit will not be given for both HORT 400V and HORT 530V. May be repeated for up to 6 hours of degree credit.

**HORT 5333. Professional Landscape Installation and Construction (Even years, Fa). 3 Hours.**

(Formerly HORT 4033.) Principles and practices involved in landscape installation and construction. Topics covered include sequencing construction activities, protecting existing trees, landscape soils, selecting plants, planting and transplanting plant materials, wood construction, cement and masonry construction, and low-voltage lighting. Lecture 3 hours per week. Preparatory training in agribusiness or business is suggested. Graduate degree credit will not be given for both HORT 4033 and HORT 5333. Prerequisite: HORT 2003.

**HORT 5403. Plant Propagation (Sp). 3 Hours.**

(Formerly HORT 4403.) Principles of plant propagation using seeds, cuttings, grafting, budding, layering, and tissue culture. The physiological basis of propagation is described. Knowledge of plant growth and physiology is needed. Lecture 2 hours, laboratory 2 hours per week. Graduate degree credit will not be given for both HORT 4403 and HORT 5403. Corequisite: Lab component. Prerequisite: BIOL 1613 and BIOL 1611L.

**HORT 5413. Horticulture Physiology (Sp). 3 Hours.**

(Formerly HORT 4413.) This course provides students with a background into the physiological processes of plants with an emphasis on horticultural crops and how the processes relate to horticultural crop production practices. Among the topics covered are photosynthesis, respiration, water relations and morphogenesis. Graduate degree credit will not be given for both HORT 4413 and HORT 5413. Prerequisite: HORT 2003 and CHEM 1073.

**HORT 5503. Sustainable Nursery Production (Even years, Sp). 3 Hours.**

(Formerly HORT 4503.) This course addresses issues and practices involved in production of quality woody nursery crops (e.g. trees and shrubs produced in open filed and containerized systems). Graduate degree credit will not be given for both HORT 4503 and HORT 5503.

**HORT 5701L. Greenhouse Management and Controlled Environment Horticulture Laboratory (Odd years, Fa). 1 Hour.**

(Formerly HORT 4701L.) Laboratory involving hands-on experiments designed to demonstrate principles discussed in the lecture section. Includes field trips. Graduate degree credit will not be given for both HORT 4701L and HORT 5701L. Corequisite: HORT 5703.

**HORT 5703. Greenhouse Management and Controlled Environment Horticulture (Fa). 3 Hours.**

(Formerly HORT 4703.) Operation and management of greenhouses and other controlled environments used in horticultural production. Emphasis on system design and construction, control of light intensity and photoperiod, heating and cooling systems, substrates, mineral nutrition, water quality and irrigation systems. Graduate degree credit will not be given for both HORT 4703 and HORT 5703. Prerequisite: HORT 2003 and CHEM 1073.

**HORT 5801L. Greenhouse Crops Production Laboratory (Even years, Sp). 1 Hour.**

(Formerly HORT 4801L.) Laboratory involving hands-on experiments designed to demonstrate principles discussed in the lecture section. Includes field trips. Graduate degree credit will not be given for both HORT 4801L and HORT 5801L. Corequisite: HORT 5803.

**HORT 5803. Greenhouse Crops Production (Even years, Sp). 3 Hours.**

(Formerly HORT 4803.) Principles and practices of production and marketing of crops commonly grown in controlled environments including flowering containerized herbaceous species, geophytes, annual and perennial bedding plants, hydroponic vegetables and herbs. Graduate degree credit will not be given for both HORT 4803 and HORT 5803. Prerequisite: HORT 4703 or HORT 5703 (formerly HORT 4703).

**HORT 5903. Golf and Sports Turf Management (Odd years, Fa). 3 Hours.**

(Formerly HORT 4903.) Turf management techniques for golf courses, and athletic fields including species selection, root-zone construction and modification, fertilization, mowing, irrigation and pest control. Graduate degree credit will not be given for both HORT 4903 and HORT 5903. Corequisite: Lab component. Prerequisite: CSES 2203 and CSES 2201L and (HORT 2303 or HORT 3403).

**HORT 5913. Rootzone Management for Golf and Sports Turf (Odd years, Sp). 3 Hours.**

(Formerly HORT 4913.) An overview of the fundamental concepts of the physical and chemical properties of rootzones as related to construction and turfgrass management. Graduate degree credit will not be given for both HORT 4913 and HORT 5913. Prerequisite: HORT 2303.

**HORT 5921. Golf Course Operations (Even years, Fa). 1 Hour.**

(Formerly HORT 4921.) This course is designed to cover specific aspects of golf course operations that would not be included in traditional turfgrass management courses. Topics will include budgeting, personnel management, tournament setup and operation, dealing with golf club committees, communication, and other relevant topics related to managing a golf course maintenance operation. Graduate degree credit will not be given for both HORT 4921 and HORT 5921. Prerequisite: HORT 4903 or HORT 5903 (formerly HORT 4903).

**HORT 5932. Turf Best Management Practices (Odd years, Sp). 2 Hours.**

(Formerly HORT 4932.) The course covers the impacts of turfgrass management practices on turf quality and the environment. In addition, the identification, biology, and control practices for the major insects, diseases, and weeds that infest turf will be covered. Emphasis will be placed on management strategies that include both chemical and non-chemical approaches to the prevention and control of common turfgrass pests. Graduate degree credit will not be given for both HORT 4932 and HORT 5932. Prerequisite: HORT 2303 and 6 hours selected from CSES 2003, PLPA 3004, and ENTO 3013.

**HORT 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Master's Thesis. Prerequisite: Graduate standing. May be repeated for degree credit.

**HORT 602V. Special Topics in Horticulture (Irregular). 1-3 Hour.**

Discussion and advanced studies on selected topics in genetics, plant breeding, physiology and culture of horticultural crops. Prerequisite: Graduate standing. May be repeated for degree credit.

**HORT 6033. Genetic Techniques in Plant Breeding (Irregular). 3 Hours.**

In-depth study of genetic improvement and techniques. Covers both current and classical literature. Topics to be discussed: haploidy, genetic control of pairing, somatic instability, tissue culture and protoplast fusion, and male sterility. Lecture discussion 3 hours per week. Prerequisite: BIOL 2323 and BIOL 2321L (or ANSC 3123 and CSES 4103 or equivalent).

## Hospitality Management (HOSP) Courses

**HOSP 1301. Hospitality Pre-Internship (Sp, Fa). 1 Hour.**

A study of job descriptions, responsibilities at the management level, structural operations, work procedures, job performance evaluations, job application, the resume and portfolio development in preparation for HOSP 4693 Hospitality Management Internship. Lecture 1 hour per week. Prerequisite: HOSP 1603 and sophomore standing.

**HOSP 1603. Introduction to Hospitality Management (Sp, Fa). 3 Hours.**

Study of the hospitality industry from a global perspective. Emphasizes an introduction to the different sectors of the hospitality industry: food service, lodging, travel & tourism, and marketing of the sectors. Exposes students to experienced practitioners who provide real life case studies and perspectives on management in the hospitality environment. Provides career development perspectives and instruction as well as management roles and techniques.

**HOSP 2433. Catering of Events Management (Sp). 3 Hours.**

This course focuses on catering in food service operations and management. Catering includes on-premise, off-premise. Emphasis is concentrated on the functions of catering to include planning, operations, organizing the event, equipment, implementing, controlling and legal issues. Prerequisite: HOSP 1603 and hospitality majors only.

**HOSP 2603. Purchasing and Cost Control (Sp, Fa). 3 Hours.**

Food purchasing with emphasis on specifications. Relationship of food purchasing to available equipment. Receiving, storage, distribution, and inventory control. Meal quality control and costing. Food and nonfood materials, management of the purchasing process, and communication. Specification writing, menu analysis, and costing. Prerequisite: HESC or HNHI majors only.

**HOSP 2633. Hotel and Resort Operations Management (Sp, Fa). 3 Hours.**

Detailed study of different departments within hotel properties. Emphasis on front office, food and beverage, housekeeping, engineering, security, sales and night audit reporting. Offers a complete approach to the operation of resort properties. Introduces students to the complex world of private club management, including club entertainment, recreation, and golf course management. Pre- or Corequisite: HOSP 1603.

**HOSP 3601L. Menu, Layout & Food Prep Lab (Sp, Fa). 1 Hour.**

Observation and preparation of quantity food production and use of equipment will be covered in this lab. Corequisite: HOSP 3603. Prerequisite: NUTR 1213, HOSP 2603 and FDSC 2503.

**HOSP 3603. Menu, Layout & Food Preparation (Sp, Fa). 3 Hours.**

Preparation and service of food for large groups. Course includes recipe standardization, menu planning, cost control, sanitation, safety, and overall quality assurance. Instruction for planning food flow from receiving to service of meals, including choosing proper equipment for the flow plan and service items. Lecture 2 hours, laboratory 6 hours per week. Prerequisite: NUTR 1213 and HOSP 2603 and Junior standing.

**HOSP 3633. Front Office Revenue Management (Sp). 3 Hours.**

This course offers students the opportunity to acquire the knowledge and skills necessary to provide the front desk services of a lodging establishment. Emphasis is placed on the interrelated elements of front desk operations including financial statements such as balance sheets, profit and loss statements, nightly audit, guest portfolios, and additional hotel charges. This course will examine the front office/desk as a revenue center of a hotel in comparison to other revenue centers on property including: food and beverage, events, catering, gift shops, golf courses, spas, etc. Corequisite: HOSP 2633.

**HOSP 3653. Food Systems Management (Fa). 3 Hours.**

Organization and management of institutional and hospital food service with focus on functions of management, health codes, and professional development. Lecture 3 hours per week. Pre- or Corequisite: FDSC 2503.

**HOSP 4633. Hospitality Operations and Financial Analysis (Sp, Fa). 3 Hours.**

This course is an in-depth, comprehensive study of hospitality operations, with emphasis on financial statements and other accounting reports that are usually used by management staffs for strategic decision making. It includes the application of computer software and human resource management skills. Pre- or Corequisite: AGME 2903 or ISYS 1123 and HOSP 3633. Prerequisite: AGECE 2142 and AGECE 2141L or ACCT 2013.



**HOSP 4643. Meetings, Events and Convention Management (Fa). 3 Hours.**

Focuses on the planning and management of meetings and conventions in the hospitality industry. Includes catering in food service operations & management for on-premise and off-premise. Course content will also cover working with contract management operations and theme catering. Corequisite: AGECE 3303 or MKTG 3433 or HOSP 4673. Prerequisite: HOSP 1603.

**HOSP 4653. Global Travel and Tourism Management (Sp). 3 Hours.**

Course recounts the history of travel, explores the future, and discusses the components of tourism from a global perspective. An overview of tourism planning at the global level will be presented. A variety of planning theories, procedures and tourism guidelines to meet the diverse needs of travelers, destination communities, hospitality organizations, public, non-governmental organizations, and the private sector will be introduced in this class. Prerequisite: HOSP 1603 and PSYC 2003 or SOCI 2013.

**HOSP 4663. Issues & Trends in Hospitality & Tourism (Sp). 3 Hours.**

A study of world trends, issues, and the current state of the industry as well as predictions for the future of lodging, cruise, restaurant, technology, travel and tourism industries with applications to forecasting change in the hospitality and tourism industries. Prerequisite: HOSP 1603, HOSP 2603 and HOSP 2633. May be repeated for up to 6 hours of degree credit.

**HOSP 4673. Destination Marketing & Operations (Fa). 3 Hours.**

This course is designed to provide students with a basic understanding of the tasks and processes involved in running a successful destination management organization (DMO). The course places heavy emphasis on destination marketing. Prerequisite: HOSP 1603 and junior standing.

**HOSP 4683. Food and Wine Management, Service and Evaluation (Fa). 3 Hours.**

This course provides students with knowledge of the sensory relationship of wine and food and the important role this process has on gastronomic satisfaction and gastronomic tourism. Course topics will include developing and marketing the wine/food tourism product, wine and food pairing as a hierarchical process, gastronomic identity, Old and New World traditions, managing a food and wine program, trends in food and wine, and promoting Arkansas food and wine. Students must have Junior standing and be at least 21 years old. Students who may not imbibe for any reason should speak with the instructor about an accommodation and alternative assignments. Prerequisite: Junior standing and HOSP majors only and instructor consent required.

**HOSP 4693. Hospitality Management Internship (Sp, Su, Fa). 3 Hours.**

Supervised experience in an instructor approved work/learning situation relating to the hospitality industry in multiple aspects of a hospitality organization. Emphasis on application of knowledge and skills to actual job roles and responsibilities. Requires employment in a hospitality setting for a minimum of 250 clock hours that must be completed in the semester of enrollment. All internship contracts and enrollment forms must be submitted to the internship coordinator for course approval four weeks prior to the semester of enrollment. Prerequisite: HOSP 1301, Junior standing, restricted to HOSP students, 500 hours of documented work-related hospitality industry experience and instructor consent. May be repeated for up to 6 hours of degree credit.

**HOSP 5633. Hospitality Operations and Financial Analysis (Sp). 3 Hours.**

In-depth comprehensive study, strategic planning and analysis of the manager's role in successful hotel operations including application of human resource management skills. Emphasis will be placed on strategic decision making, operating procedures, budgeting, financial analysis, problem solving skills, and the technical skills necessary for effective hospitality operations.

**HOSP 5643. Meetings and Convention Management (Fa). 3 Hours.**

Focuses on the planning and management of meetings and conventions in the hospitality industry.

**HOSP 5653. Global Travel and Tourism Management (Sp). 3 Hours.**

The course recounts the history of travel, explores the future, and discusses the components of tourism from a global perspective.

**HOSP 5663. Critical Issues and Trends in Hospitality and Tourism (Sp). 3 Hours.**

The hospitality industry is arguably one of the most important sources of income and foreign exchange and is growing rapidly. However, national and international crises have huge negative economic consequences. This course explores change in the world and applies this to forecasting change in the hospitality and tourism industries. This course examines the current state of the industry and makes educated predictions to the future of the lodging, cruise, restaurant, technology, and travel and tourism industries.

**HOSP 5673. Destination Marketing and Operations (Sp). 3 Hours.**

This course is designed to provide students with a basic understanding of the tasks and processes involved in running a successful destination management organization (DMO). This course places heavy emphasis on destination marketing. Prerequisite: HOSP 1603.

**HOSP 5683. Food and Wine Management, Service and Evaluation (Fa). 3 Hours.**

This course provides students with knowledge of the sensory relationship of wine and food and the important role this process has on gastronomic satisfaction and gastronomic tourism. Course topics will include developing and marketing the wine/food tourism product, wine and food pairing as a hierarchical process, gastronomic identity, Old and New World traditions, managing a food and wine program, trends in food and wine, and promoting Arkansas food and wine. Students must be at least 21 years old. Students are required to complete an alcohol compliance education program prior to taking course. Students who may not imbibe for any reason should speak with the instructor about an accommodation and alternative assignments. Prerequisite: HOSP graduate students only and instructor consent required.

**HOSP 5693. Hospitality Management Internship (Sp, Su, Fa). 3 Hours.**

Supervised experience in an instructor approved work/learning situation relating to the hospitality industry in multiple aspects of a hospitality organization. Emphasis on application of knowledge and skills to actual job roles and responsibilities. Requires employment in a hospitality setting for a minimum of 250 clock hours. Prerequisite: Instructor consent.

## Human Environmental Sciences (HESC) Courses

**HESC 1403. Life Span Development (Sp, Fa). 3 Hours.**

A broad overview of the physical, psychological, and social development of the individual from conception until death. Emphasis is on individual development in a family context. Lecture 3 hours per week.

**HESC 1403H. Honors Life Span Development (Sp, Fa). 3 Hours.**

A broad overview of the physical, psychological, and social development of the individual from conception until death. Emphasis is on individual development in a family context. Lecture 3 hours per week.

**HESC 1501. Issues and Trends in Human Environmental Sciences (Sp, Fa). 1 Hour.**

History of human environmental sciences and breadth of its professional opportunities. Prerequisite: AMPD, HESC, HOSP, NUTR, HDFS majors only or departmental consent.

**HESC 2413. Family Relations (Sp, Fa). 3 Hours.**

Courtship, marriage, and parenthood in the United States, with attention to cultural and psychological factors which affect relations among family members. Lecture 3 hours per week.

**HESC 2413H. Honors Family Relations (Sp, Fa). 3 Hours.**

Courtship, marriage, and parenthood in the United States, with attention to cultural and psychological factors which affect relations among family members. Lecture 3 hours per week.

This course is equivalent to HESC 2413.

**HESC 255V. Special Topics (Irregular). 1-6 Hour.**

Topics not covered in other courses or a more intensive study of specific topics in the specializations of human environmental sciences. May be repeated for degree credit.

**HESC 2603. Rural Families and Communities (Sp). 3 Hours.**

Meaning of sociology and sociological concepts with reference to rural society, families and communities; interdependence of rural and urban population in ecological areas; institutions; social change and adjustment.

**HESC 2603H. Honors Rural Families and Communities (Sp). 3 Hours.**

Meaning of sociology and sociological concepts with reference to rural society, families and communities; interdependence of rural and urban population in ecological areas; institutions; social change and adjustment. Prerequisite: Honors standing.

This course is equivalent to HESC 2603.

**HESC 400V. Special Problems (Sp, Su, Fa). 1-6 Hour.**

May be repeated for up to 6 hours of degree credit.

**HESC 4233. Childhood Obesity: Context and Preventions (Su). 3 Hours.**

A multidisciplinary course that focuses on the context and prevention of childhood obesity. Directed readings and discussion will center on an ecological approach: identifying the problem(s) and behavioral and environmental factors and their interactions, as well as predisposing, enabling, and reinforcing factors, and action plan(s). The issue is addressed from a multidisciplinary perspective, including economics, marketing, child development, nutrition, and health behavior.

**HESC 4233H. Honors Childhood Obesity: Context and Preventions (Su). 3 Hours.**

A multidisciplinary course that focuses on the context and prevention of childhood obesity. Directed readings and discussion will center on an ecological approach: identifying the problem(s) and behavioral and environmental factors and their interactions, as well as predisposing, enabling, and reinforcing factors, and action plan(s). The issue is addressed from a multidisciplinary perspective, including economics, marketing, child development, nutrition, and health behavior.

This course is equivalent to HESC 4233.

**HESC 4423. Adult Development (Fa). 3 Hours.**

Examine individual development beginning with the transition adulthood through middle age; approximate age ranges are 18-60 years. Content focuses on physical, cognitive, psychological, and social changes that occur throughout this period of the life span. The impact of love, work, and family on men's and women's movement through the transitions that comprise adulthood are emphasized. Prerequisite: HESC 1403 or PSYC 2003 and junior standing.

**HESC 455V. Special Topics (Irregular). 1-6 Hour.**

Topics not covered in other courses, a focused study of specific topics in the students' areas of concentration. May be repeated for up to 6 hours of degree credit.

**HESC 455VH. Honors Special Topics (Irregular). 1-6 Hour.**

Topics not covered in other courses, a focused study of specific topics in the students' areas of concentration. Prerequisite: Honors standing. May be repeated for up to 6 hours of degree credit.

**HESC 502V. Special Problems Research (Sp, Su, Fa). 1-6 Hour.**

Individual study or research for graduates in the field of human environmental sciences.

**HESC 5233. Childhood Obesity: Context and Preventions (Su). 3 Hours.**

A multidisciplinary course that focuses on the context and prevention of childhood obesity. Directed readings and discussion will center on an ecological approach: identifying the problem(s) and behavioral and environmental factors and their interactions, as well as predisposing, enabling, and reinforcing factors, and action plan(s). The issue is addressed from a multidisciplinary perspective, including economics, marketing, child development, nutrition, and health behavior.

**HESC 5463. Research Methodology in Social Sciences (Fa). 3 Hours.**

Logical structure and the method of science. Basic elements of research design; observation, measurement, analytic method, interpretation, verification, presentation of results. Applications to research in the economic and sociological problems of agriculture and Human Environmental Sciences. Prerequisite: Graduate standing. This course is cross-listed with AGED 5463.

**HESC 555V. Special Topics in Human Environmental Sciences (Irregular). 1-3 Hour.**

Topics not covered in other courses or a more intensive study of specific topics in the specializations of human environmental sciences.

**HESC 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Master's Thesis. May be repeated for degree credit.

**HESC 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Doctoral Dissertation. Prerequisite: Candidacy. May be repeated for degree credit.

## Human Resource and Workforce Development Education (HRWD) Courses

**HRWD 200V. Work Knowledge (Irregular). 1-19 Hour.**

Credit by advanced standing examination for job knowledge as measured by program approved National Occupational Competency Testing Institute (NOCTI) assessments. May be repeated for up to 19 hours of degree credit.

**HRWD 3113. Foundations of Human Resource Development (Sp, Su, Fa). 3 Hours.**

Presents the theory and processes associated with human resource development (HRD) used to design and measure interventions in the areas of organization development, personnel training and development, and career development. Students will analyze organizations and study global implications of HRD, and survey topics in human resource management (HRM) that distinguish HRM from HRD. Prerequisite: Students must be admitted to the University of Arkansas and to the HRWD program.

**HRWD 3123. Career Development (Su, Fa). 3 Hours.**

This course introduces the concepts of career development and career theories. Career development in both the private and public sectors will be explored. Students will gain knowledge that should enable them to be effective in developing their careers and those of others.

**HRWD 3133. Writing for Human Resource and Workforce Development Professionals (Sp). 3 Hours.**

This course focuses on the types of formal reports typically prepared by Human Resource Development professionals with an emphasis on preparation, data collection and research, organization, style, format, graphics, and technical descriptions.

**HRWD 3213. Organization Development (Sp, Su). 3 Hours.**

This undergraduate-level course presents the theory and practice of organization development (OD) as a means for performance improvement at various levels, including organization, departmental unit, work group, and individual. The course covers the processes of OD, interventions, theories, and practice of OD life goals.

**HRWD 3223. Managing Human Resource Development Programs (Sp, Fa). 3 Hours.**

The basic aim of this course is to equip the students to examine the essential aspects of the theory and practice of managing human resource development programs. Employees require higher level of analytical, problem solving and creative skills. This course aims to help students develop the skills of employee through better understanding of mechanisms for employment equity, transparency, intellectual capital, e-learning, and career development. This course is designed to guide students through an in depth process of identifying, analyzing, and synthesizing elements related to developing, articulating, and implementing an organizational vision, mission, and strategic plan for HRD programs. Prerequisite: Junior standing.

**HRWD 3313. Training and Development (Sp, Fa). 3 Hours.**

This course addresses the acquisition of professional skills and strategies associated with creating and maintaining training and development activities in the workplace. It involves a regular class/workshop situation where training and development skills are practiced and encouraged and a work-based situation where skills are tried and implemented as well as assessed.

**HRWD 3323. Designing and Developing Human Resource Development Programs (Sp, Su). 3 Hours.**

Students will learn to design and develop training programs. The focus is on need for training, application of learning principles, writing instructional objectives and plans, designing active training methods, using visual aids, working with groups, and evaluating training. Pre- or Corequisite: HRWD 3113 and HRWD 3313. Prerequisite: Junior standing.

**HRWD 3333. Communication in Human Resource and Workforce Development (Su, Fa). 3 Hours.**

This course offers instruction on types of communication commonly encountered by Human Resource Development professionals. Emphasis is on audience and purpose analysis, topic research, visual aids, and delivery methods. Activities include preparation and delivery of extemporaneous speeches, team communication, communication with clients, and preparation and delivery of training sessions.

**HRWD 4113. The Generational Dynamics in the Workplace (Sp, Fa). 3 Hours.**

Focus of study on the concepts of individual and generational differences among employees in the workplace; what they are and how they affect workplace teaching and learning. Prerequisite: Senior standing.

**HRWD 4123. Strategic Human Resource Development (Su, Fa). 3 Hours.**

This course introduces students to the theories and principles of Strategic HRD. Methods of aligning HRD strategy with the business strategy of the organization are discussed. Prerequisite: Junior standing.

**HRWD 4133. International Human Resource Development and Cultural Differentiation (Su, Fa). 3 Hours.**

This course is designed to introduce students to concepts of international HRD and cultural differentiation that must be acknowledged when developing programs for all employees in the workplace. Prerequisite: Senior standing.

**HRWD 4213. Workplace Diversity and Human Resource Development (Sp, Su). 3 Hours.**

Students will study workplace diversity and the role of HRD in implementing workplace diversity strategies and programs. Prerequisite: Senior standing.

**HRWD 4223. Professional and Leadership Development (Su, Fa). 3 Hours.**

Students are introduced to professional and leadership development theories and principles. Methods and strategies for succession planning, self-development, and change are discussed. Prerequisite: Junior standing.

**HRWD 4233. HRD Legal and Ethical Issues (Sp, Fa). 3 Hours.**

This course covers the major employment law facts and concepts used in human resource development. Applications of the key concepts and facts are emphasized in the class. Knowledge of the employment law facts and concepts and their applications at the workplace is vital for the human resource development professional. Prerequisite: Junior standing.

**HRWD 4313. Human Resource Development Program and Product Evaluation (Sp, Su). 3 Hours.**

This course covers the evaluation of HRD programs and products used in the workplace. Students will develop methods of assessing the viability of programs and products to best meet the needs of the organization. Prerequisite: Senior standing.

**HRWD 4323. Instructional Technology and Design (Su, Fa). 3 Hours.**

This course addresses the application of instructional technology and design associated with the needs assessment and design of course materials in human resource development. The emphasis is on the learner in workplace situations. The course will cover the history of the field and its current status. Prerequisite: Junior standing.

**HRWD 4333. Human Resource Development Capstone (Sp, Fa). 3 Hours.**

This course will serve as the assessment course for students in the HRWD program. The course work will evaluate all aspects of the HRD curriculum, specifically the three pillars of HRD: career development, organization development, and training and development. Prerequisite: HRWD 3113, HRWD 3213, HRWD 3313 and senior standing.

**HRWD 440V. Human Resource Development Practicum/Internship (Irregular). 1-6 Hour.**

The purpose of this course is to apply the HRD theories and best practices studied in the program curriculum with the workplace. May be repeated for up to 12 hours of degree credit.

**HRWD 450V. Experiential Learning (Irregular). 1-19 Hour.**

This course is limited to persons qualifying for experiential credit to be applied to the Human Resource Development Concentration only. Credit is awarded for documented experiential or occupational learning based on a standardized format as suggested by the Council for the Advancement of Experiential Learning (CAEL). Credit for certain occupational training or professional certifications may also be earned using the American Council on Education (ACE) guidelines. May be repeated for up to 19 hours of degree credit.

**HRWD 5113. Foundations of Human Resource & Workforce Development (Sp, Su, Fa). 3 Hours.**

An overview of human resource and workforce development (HRWD) in organizations. Focus on the integration of training and development, career development, and organization development. Topics include strategic planning for human resource and workforce development, needs assessment, program development, application of workplace learning theories, career development theories and methods, and application of organization learning theories.

**HRWD 5123. Career Transitions (Sp). 3 Hours.**

This advanced level course is intended for career development professionals and/or subject-matter experts interested in improving their career development skills within a structured or unstructured learning environment. The emphasis in this course is on gaining career development techniques and planning formal and informal career development strategies for the individual or the organization.

**HRWD 5133. HRWD Diversity Issues (Fa). 3 Hours.**

This course emphasis is on current trends and case studies of diversity in the workplace. Prerequisite: Graduate standing.

**HRWD 5213. Organizational Analysis (Sp, Su). 3 Hours.**

This course introduces the analysis process in organizations. The instruction and activities will enable students to develop skills in conducting organizational needs analysis (OA) as a basis for performance improvement in the workplace.

**HRWD 5223. Strategic Human Resource and Workforce Development Education (Fa). 3 Hours.**

A comprehensive examination of the issues, topics, principles, theories, philosophies and concepts facing tomorrow's HRD professionals. Includes the transformation of strategic HRD; the role of strategic HRD leaders as change agents; the principles of strategic HRD; professional practice domains of strategic HRD; organizational learning, performance, and change; and analysis, design, and evaluation of HPI interventions. Students will identify practices for informing decisions related to the formation of strategic HRD planning and implementation efforts.

**HRWD 5233. HRWD Employment, Legal, and Ethical Issues (Sp). 3 Hours.**

This course focuses on employment, legal and ethical issues within the workplace. Students will gain knowledge that should enable them to be effective in understanding current employment concerns, equal employment opportunity (EEO) laws, and ethical practices within the workplace and how these employment concerns, laws, and practices impact society.

**HRWD 5313. Facilitating Learning in the Workplace (Sp). 3 Hours.**

Facilitation of learning and performance improvement in the workplace. Application of instructional methods, formal and informal learning strategies, coaching, team building, and formal and informal on-the-job learning tactics. Focus on facilitating individual and group learning to affect organizational change.

**HRWD 5323. International HRWD (Fa). 3 Hours.**

Exploration of how globalization and culture affect the workplace and the human resource development profession. Difference between global HRD and HRD practiced in a single country. Impact of culture on every aspect of HRD implementation and practice. Examination of HRD practices in different regions of the world.

**HRWD 5333. HRWD Technological Resources (Fa). 3 Hours.**

This course provides students with the tools and abilities to evaluate and understand technology resources used in HRWD. Primary course elements are instructional design characteristics of technology, theoretical and practical uses of technology resources to facilitate and manage learning, and selecting the best or most appropriate technological resources. The course uses online technologies and learning experiences.

**HRWD 5433. HRWD Capstone (Sp, Su, Fa). 3 Hours.**

This course is the final course for the degree in Human Resource and Workforce Development. Students will be assessed on their overall knowledge and understanding of the field. The focus of this course will be research and analysis of classic works and current trends. Pre- or Corequisite: 27 MED credit hours completed.

**HRWD 571V. Independent Study (Irregular). 1-3 Hour.**

May be repeated for up to 3 hours of degree credit.

**HRWD 572V. Workshop (Irregular). 1-3 Hour.**

Prerequisite: Advanced graduate standing. May be repeated for up to 3 hours of degree credit.

**HRWD 573V. Experiential Learning (Irregular). 1-18 Hour.**

This course is designed for the student to attain paid or unpaid experiential development. May be repeated for up to 18 hours of degree credit.

**HRWD 6313. Project and Program Evaluation (Even years, Sp). 3 Hours.**

This course is a doctoral level course designed as an introduction to project and program evaluation in human resource and workforce development. Emphasis is on (a) project design and development, (b) program development and improvement, and (c) the integration of evaluation with strategic planning and performance improvement.

**HRWD 6323. Qualitative Research Design and Analysis (Even years, Sp). 3 Hours.**

This course is designed to introduce HRWD students to qualitative research design, data collection and data analysis. Course content includes data collection through interviews, field observation, records research, ethical issues associated with conducting research in organizational settings, and internal and external validity problems. Prerequisite: ESRM 5013 and ESRM 6403.

**HRWD 6333. Quantitative Research Design and Analysis (Even years, Fa). 3 Hours.**

This course provides HRWD students with the tools and abilities to design and implement an original research project using quantitative measures. Primary course elements are research design application, theoretical settings of research, and nesting research within an appropriate literature base. The course uses online technologies and on-campus learning experiences. Prerequisite: ESRM 5013 and ESRM 6403.

**HRWD 6343. Principles and Techniques of Research in HRWD (Even years, Fa). 3 Hours.**

This course addresses the principles and techniques underlying organizational research, both experimental and non-experimental. It covers the basic philosophy of science and research methods and gives attention to the practical problems of design, data collection sampling, and data analysis. Prerequisite: ESRM 5013 and ESRM 6403.

**HRWD 6413. Career Theory and Decision Making (Fa). 3 Hours.**

This course focuses on comprehensive understanding of career theory and decision making to enhance career development that emphasizes technology, cross-cultural issues, practical application, and the global economy. Career development in both the private and public sectors will be explored. Students will gain knowledge that should enable them to be effective in developing their careers and those of others using multicultural considerations and a global perspective.

**HRWD 6423. Practicum (Irregular). 3 Hours.**

Practicum is designed to allow doctoral students in workforce development education an opportunity to apply the theoretical knowledge, skills and abilities to training, teaching, or research projects. May be repeated for up to 6 hours of degree credit.

**HRWD 6513. Organization Development (Odd years, Su). 3 Hours.**

This course teaches development of organization activities that intervene in the interaction of people systems to increase the effectiveness of using a variety of applied behavioral sciences. It includes the dynamics of organizations, the genesis of organizational theory and evolution of organizational dynamics, including examination of system structure, chaos theory, group dynamics and interaction, leadership theories, diversity issues impacting organizations, and techniques of change agent intervention.

**HRWD 6523. Leadership Models and Concepts (Odd years, Fa). 3 Hours.**

This doctoral course concentrates on using commonly accepted principles of leadership to develop skills needed in workforce development education settings.

**HRWD 6533. HRWD Ethical and Legal Issues (Fa). 3 Hours.**

Focuses on ethical and legal issues within the workplace and behavioral science research. Students gain knowledge that should enable them to be effective in understanding ethical and legal issues within their workplace and how they can impact society.

**HRWD 6613. Learning and Teaching Theories (Odd years, Sp). 3 Hours.**

Models and philosophies of important theorists in the field of teaching and learning.

**HRWD 6633. Technology Systems in Human Resource and Workforce Development (Odd years, Fa). 3 Hours.**

This course provides students with the tools and abilities to evaluate and understand technology systems in HRWD. Primary course elements are instructional design characteristics of technology systems, theoretical and practical settings that use technology systems to facilitate and manage learning, and selecting the best or most appropriate system for organizational use. The course uses online technologies and learning experiences.

**HRWD 6643. History and Foundations of HRWD (Even years, Fa). 3 Hours.**

This course focuses on the history of human resource development as a practice and a profession. Particular emphasis in this course is placed on the influence of philosophy on developing HRD theory and practice. As students progress through this course they can expect to gain greater understanding of how HRD developed as a profession, the historical root of its theory and practice, and an understanding of how to evaluate the philosophical assumptions of current HRD theory and practice.

**HRWD 6713. HRWD Curriculum Design (Su). 3 Hours.**

Determining principles of curriculum development, implementation, and evaluation with emphasis in human resource development education.

**HRWD 6723. Entrepreneurial Development (Irregular). 3 Hours.**

An advanced graduate-level course examining the history, economics, theory and practice of developing Entrepreneurial enterprises. This course presents an overview of the business and organizational systems with which an entrepreneur should be familiar.

**HRWD 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Doctoral Dissertation. Prerequisite: Candidacy. May be repeated for degree credit.

## Humanities (HUMN)

### Courses

**HUMN 1114H. Honors Roots of Culture to 500 C.E. (Fa). 4 Hours.**

This course constitutes the first segment of a four-semester interdisciplinary study of the Egyptian Book of the Dead, the Torah, the Roman Colosseum, Hinduism, and Confucianism. Open to first-year Honors students by invitation only. Corequisite: Drill component.

**HUMN 1124H. Honors Equilibrium of Cultures 500-1600 (Sp). 4 Hours.**

This course constitutes the second segment of a four-semester sequence focusing on world cultures. Semester 2 may include the interdisciplinary study of Islam, early Byzantium, Gothic architecture, Heian Japan, and the ancient Maya. Open to first-year Honors students by invitation only. Corequisite: Drill component.

**HUMN 2013. Introduction to Buddhism (Fa). 3 Hours.**

Beginning with an analysis of the fundamental principles that underlie all Buddhist thought and practice, students will proceed through the major precepts that have historically distinguished the traditions of Southern and Northern Asia. Attention will also be given to Buddhism's spread through Europe and North America in the twentieth century.

**HUMN 2114H. Honors Birth of Modern Culture 1600-1900 (Fa). 4 Hours.**

This course constitutes the third segment of a four-semester sequence focusing on world cultures. Semester 3 may include the interdisciplinary study of Renaissance Venice, feudal Japan, Moghul India, Jefferson's Monticello, and Darwinism. Open to second-year Honors students by invitation only. Corequisite: Drill component.

**HUMN 2124H. Honors Twentieth Century Global Culture (Sp). 4 Hours.**

This course constitutes the fourth segment of a four-semester sequence focusing on world cultures. Semester 4 may include the interdisciplinary study of the Brooklyn Bridge, the Mexican Revolution, African literature, the Vietnam Memorial, and the atomic age. Open to second-year Honors students by invitation only. Corequisite: Lab component.

**HUMN 2203H. Honors Humanities Abroad (Irregular). 3 Hours.**

This course is intended as a companion to the Honors Humanities Project (H2P). Students participate in faculty-led site visits to selected countries to facilitate an interdisciplinary exploration of global humanities topics covered in the H2P sequence (HUMN 1114, HUMN 1124, and HUMN 2114). Prerequisite: HUMN 1114H or HUMN 1124H or HUMN 2114H or HUMN 2124H and honors standing. May be repeated for up to 6 hours of degree credit.

**HUMN 2213. Introduction to World Religions (Sp). 3 Hours.**

A survey of the major religions, including--but not limited to--Hinduism, Buddhism, Judaism, Islam, and Christianity.

**HUMN 3003. Religions of Asia (Sp). 3 Hours.**

This course explores the narrative, ritual, and communal practices of Hinduism, Jainism, Buddhism, Taoism, Confucianism, Shinto, Islam, and Sikhism.

**HUMN 3163. On Death and Dying (Sp, Su, Fa). 3 Hours.**

Reviews the theory and humanistic importance of the concepts of death and dying in society. An experimental option and interdisciplinary faculty presenters will be part of the format. Prerequisite: Junior standing.

This course is cross-listed with SCWK 3163.

**HUMN 3923H. Honors Colloquium (Irregular). 3 Hours.**

Treats a special topic or issue offered as a part of the Honors Program. Prerequisite: Honors candidacy. May be repeated for degree credit.

**HUMN 425V. Colloquium (Irregular). 1-6 Hour.**

An interdisciplinary, value-oriented discussion course. May be repeated for up to 6 hours of degree credit.

**HUMN 425VH. Honors Colloquium (Irregular). 1-6 Hour.**

An interdisciplinary, value-oriented discussion course. May be repeated for up to 6 hours of degree credit.

This course is equivalent to HUMN 425V.

## Industrial Engineering (INEG)

### Courses

**INEG 2001. Industrial Engineering Seminar (Fa). 1 Hour.**

Overview of the Department of Industrial Engineering: faculty and their backgrounds and interests, staff and the services they provide, facilities, curricular requirements, extracurricular opportunities, post-graduate opportunities.

**INEG 2103. Introduction to Industrial Engineering (Fa). 3 Hours.**

Introduction to the technical content of industrial engineering and the use of computing in the solution of traditional industrial engineering problems. Computer tools include spreadsheets, programming, and mathematical analysis software. Corequisite: Lab component.

**INEG 2313. Applied Probability and Statistics for Engineers I (Sp, Fa). 3 Hours.**

Applications to engineering problems of probability theory, discrete and continuous random variables, descriptive statistics, single-population point and interval estimation, single-population hypothesis testing, goodness-of-fit testing, and contingency table testing. Corequisite: Drill component. Prerequisite: MATH 2564.

**INEG 2313H. Honors Applied Probability and Statistics for Engineers I (Sp, Fa). 3 Hours.**

Applications to engineering problems of probability theory, discrete and continuous random variables, descriptive statistics, single-population point and interval estimation, single-population hypothesis testing, goodness-of-fit testing, and contingency table testing. Corequisite: Drill component. Prerequisite: MATH 2564. This course is equivalent to INEG 2313.

**INEG 2333. Applied Probability and Statistics for Engineers II (Sp, Fa). 3 Hours.**

Applications to engineering problems of two-population point and interval estimation, two-population hypothesis testing, linear regression, correlation, design of experiments, analysis of variance, and nonparametric statistics. Introduction to statistical quality control. Prerequisite: INEG 2313.

**INEG 2403. Industrial Cost Analysis (Sp). 3 Hours.**

Use of accounting information for planning and control with emphasis on the engineering viewpoint; introduction to general accounting procedures; principles of cost accounting and other aspects of production costs; budgeting, depreciation, taxes, distribution of profits, securities, sources of corporate capital, interpretation of financial statements, and other related topics. Laboratory required. Corequisite: Lab component.

**INEG 2413. Engineering Economic Analysis (Sp, Fa). 3 Hours.**

Economic aspects of engineering, including current economic problems and the treatment of estimates when evaluating alternative courses of action. Methods of selection and replacement of equipment and break-even points of operation; desirability of new processes or projects where asset life, rate of return on investment, and first, fixed, differential, marginal, and sunk costs must be considered. Corequisite: Drill component. Prerequisite: MATH 2554.

**INEG 2812H. Honors Industrial Engineering Research Experience I (Sp). 2 Hours.**

Introduction to the research of the faculty of the Department of Industrial Engineering for the purpose of matching students with an undergraduate research advisor. Development of skills in using electronic resources to conduct background research on individuals and topics in the industrial engineering academic community. Prerequisite: Instructor consent and honors standing.

**INEG 3513. Manufacturing Processes (Sp). 3 Hours.**

This course focuses on the manufacturing processes that impart geometry and properties to engineering materials including casting, metalworking, machining, joining, heat treatment, and polymer processes. Process selection and analysis, design-for-manufacturing principles, cost estimation, and selection of process parameters are covered. Lab component covers communication of manufacturing specifications via engineering drawings. Prerequisite: MEEG 2303. Corequisite: Lab component.

**INEG 3613. Introduction to Operations Research (Sp). 3 Hours.**

Introduction to modeling and analysis of deterministic operations design and planning problems using formal optimization algorithms and software. Identification and formulation of appropriate applications, linear programming, sensitivity, network flows/transportation/assignment problems, shortest paths, and integer linear programming. Prerequisite: INEG 2103 and MATH 2574.

**INEG 3623. Simulation (Fa). 3 Hours.**

The development and use of discrete-event simulation models for the analysis and design of systems found in manufacturing, distribution, and service contexts. Coverage includes conceptual modeling, model translation to computer form, statistical input models, random number generation and Monte Carlo methods, experimentation and statistical output analysis, and queuing analysis. Includes the use of modern computer simulation languages. Corequisite: Drill component. Pre- or Corequisite: INEG 2333. Prerequisite: INEG 2413 and CSCE 2004.

**INEG 3623H. Honors Simulation (Fa). 3 Hours.**

The development and use of discrete-event simulation models for the analysis and design of systems found in manufacturing, distribution, and service contexts. Coverage includes conceptual modeling, model translation to computer form, statistical input models, random number generation and Monte Carlo methods, experimentation and statistical output analysis, and queuing analysis. Includes the use of modern computer simulation languages. Corequisite: INEG 2333 and drill component. Prerequisite: INEG 2413 and CSCE 2004. This course is equivalent to INEG 3623.

**INEG 3713. Methods and Standards (Sp, Fa). 3 Hours.**

Fundamental rules of motion economy; motion analysis by means of charts; diagrams; work place design; tool and equipment selection; operator selection; and job description and analysis. Fundamentals of time study; observed and synthetic times; use of standard data and time formula; leveling; rating; allowances; and work sampling. Laboratory required. Corequisite: Lab component. Prerequisite: INEG 2313.

**INEG 3723. Ergonomics (Sp, Fa). 3 Hours.**

The capabilities and limitations of humans are addressed in the context of the person's interaction with machines and the environment. Topics of discussion include anthropometric considerations in equipment design, human sensory and physiological capabilities in the work environment, selection and training of workers, and the design of controls and displays. Corequisite: Lab component. Prerequisite: INEG 2333 and INEG 3713.

**INEG 3812H. Honors Industrial Engineering Research Experience II (Fa). 2 Hours.**

Development of an undergraduate research proposal. Introduction to the peer review process. Examination of conference travel, nationally-competitive award, and graduate fellowships. Emphasis on technical communication skills. Prerequisite: INEG 2812H and honors standing.

**INEG 400VH. Honors Thesis (Sp, Su, Fa). 1-3 Hour.**

For Honors College students majoring in Industrial Engineering only. Prerequisite: Honors college students only and instructor consent.

**INEG 410V. Special Topics in Industrial Engineering (Irregular). 1-3 Hour.**

Consideration of current industrial engineering topics not covered in other courses. Prerequisite: Senior standing. May be repeated for up to 3 hours of degree credit.

**INEG 410VH. Honors Special Topics in Industrial Engineering (Irregular). 1-3 Hour.**

Consideration of current industrial engineering topics not covered in other courses. Prerequisite: senior standing. May be repeated for up to 3 hours of degree credit. This course is equivalent to INEG 410V.

**INEG 411V. Individual Study in Industrial Engineering (Sp, Su, Fa). 1-3 Hour.**

Individual study and research on a topic mutually agreeable to the student and a faculty member. Prerequisite: Instructor consent.

**INEG 411VH. Honors Individual Study in Industrial Engineering (Sp, Su, Fa). 1-3 Hour.**

Individual study and research on a topic mutually agreeable to the student and a faculty member. Prerequisite: Instructor consent and honors candidacy. This course is equivalent to INEG 411V.

**INEG 4223. Occupational Safety and Health Standards (Irregular). 3 Hours.**

Survey of existing and proposed standards by examining fundamental physical, economic, and legal bases. Performance vs. specific standards. Enforceability and data collection. National consensus and promulgation process. Includes a computer-based design project. Prerequisite: INEG 2313.

**INEG 4223H. Honors Occupational Safety and Health Standards (Irregular). 3 Hours.**

Survey of existing and proposed standards by examining fundamental physical, economic, and legal bases. Performance vs. specific standards. Enforceability and data collection. National consensus and promulgation process. Includes a computer-based design project. Prerequisite: INEG 2313. This course is equivalent to INEG 4223.

**INEG 4253. Leadership Principles and Practices (Fa). 3 Hours.**

The course is designed to expose students to multiple approaches to leadership in a wide variety of settings. Leadership styles, the knowledge areas and competencies expected of today's leaders, the challenges leaders face, the historical and philosophical foundations of leadership, the relationships among leadership theory, leadership practice, and the moral-ethical aspects of leadership are among the topics covered in the course. A number of respected regional, national, and international leaders share "lessons learned" in their leadership journeys. Plus, a number of highly regarded leadership books and case studies on leadership are read and discussed. Students may not receive credit for INEG 4253 and INEG 5253/OMGT 5253. Prerequisite: Instructor consent.

This course is cross-listed with INEG 4253H.

**INEG 4253H. Honors Leadership Principles and Practices (Fa). 3 Hours.**

The course is designed to expose students to multiple approaches to leadership in a wide variety of settings. Leadership styles, the knowledge areas and competencies expected of today's leaders, the challenges leaders face, the historical and philosophical foundations of leadership, the relationships among leadership theory, leadership practice, and the moral-ethical aspects of leadership are among the topics covered in the course. A number of respected regional, national, and international leaders share "lessons learned" in their leadership journeys. Plus, a number of highly regarded leadership books and case studies on leadership are read and discussed. Students may not receive credit for INEG 4253 and INEG 5253/OMGT 5253. Prerequisite: Honors standing and instructor consent.

This course is cross-listed with INEG 4253.

**INEG 4323. Quality Engineering and Management (Irregular). 3 Hours.**

Provides the student with complete coverage of the functional area of "Quality Assurance" ranging from the need for such a function, how it works, techniques utilized, and managerial approaches for insuring its effectiveness. Prerequisite: INEG 2333.

**INEG 4343. Cognitive Ergonomics (Irregular). 3 Hours.**

Studies of human cognition in work settings in order to enhance performance of cognitive tasks through an understanding of cognitive processes (e.g., attention, perception errors, decision making, workload) required of operators in modern industries. Emphasis lies on how to (re)design human-machine interfaces and cognitive artifacts so that human well-being and system performance are optimized in work environments. Prerequisite: CSCI 2004.

**INEG 4383. Risk Analysis for Transportation and Logistics Systems (Irregular). 3 Hours.**

Fundamentals of modeling risk, analyzing risk, and managing risk in a variety of industrial and government decision-making settings. Risk measurement and model building, uncertainty quantification, and multi-objective trade-offs. Prerequisite: INEG 2313 and INEG 4553.

**INEG 4423. Advanced Engineering Economy (Irregular). 3 Hours.**

Preparation of feasibility studies, including cost estimation, risk and uncertainty, sensitivity analysis and decision making. Effects of taxes, depreciation and financing costs on cash flows. Prerequisite: INEG 2413.

**INEG 4423H. Honors Advanced Engineering Economy (Irregular). 3 Hours.**

Preparation of feasibility studies, including cost estimation, risk and uncertainty, sensitivity analysis and decision making. Effects of taxes, depreciation and financing costs on cash flows. Prerequisite: INEG 2413.  
This course is equivalent to INEG 4423.

**INEG 4433. Systems Engineering and Management (Fa). 3 Hours.**

Overview of the fundamental concepts underlying the management of engineering. Reviews the engineering decision process within the life cycle. Examines implementation of basic management functions in technical organizations and development of strategy tools within a complex organization. Prerequisite: INEG 2403.

**INEG 4433H. Honors Systems Engineering and Management (Fa). 3 Hours.**

Overview of the fundamental concepts underlying the management of engineering. Reviews the engineering decision process within the life cycle. Examines implementation of basic management functions in technical organizations and development of strategy tools within a complex organization. Prerequisite: INEG 2403.

This course is equivalent to INEG 4433.

**INEG 4443. Project Management (Irregular). 3 Hours.**

Analysis of the strategic level of project management including planning, organizing, and staffing for successful project execution. Professional creativity, motivation, leadership, and ethics are also explored. At the tactical level, project selection, control, and systems management are analyzed. Systems development and decision support tools for project management are studied. Prerequisite: Senior standing.

**INEG 4443H. Honors Project Management (Irregular). 3 Hours.**

Analysis of the strategic level of project management including planning, organizing, and staffing for successful project execution. Professional creativity, motivation, leadership, and ethics are also explored. At the tactical level, project selection, control, and systems management are analyzed. Systems development and decision support tools for project management are studied. Prerequisite: Senior standing.

This course is equivalent to INEG 4443.

**INEG 4453. Productivity Improvement (Irregular). 3 Hours.**

Analysis of common productivity problems. Development of skills required to diagnose problems; measure productivity; develop improvement strategies; and provide for the implementation and maintenance of productivity measurement and improvement systems. Prerequisite: Senior standing.

**INEG 4533. Application of Machine Vision (Sp). 3 Hours.**

Automated machine vision applied to assembly and inspection tasks traditionally performed by human operators; development of application by acquiring image, processing image data, analyzing image and transmitting results; application analysis, selection and economics. Laboratory required. Corequisite: Lab component. Prerequisite: Senior standing.

**INEG 4543. Facility Logistics (Irregular). 3 Hours.**

The design and analysis of efficient logistics systems at the facility level, with an emphasis on distribution facilities. Unit load, break bulk, crossdock and order fulfillment centers and their component systems and software. Automated and manual systems. Corequisite: Lab component. Prerequisite: INEG 2413 and INEG 3613.

**INEG 4553. Production Planning and Control (Fa). 3 Hours.**

Strategy and competition, forecasting, aggregate planning, inventory control subject to known demand, inventory control subject to uncertain demand, supply chain management, push and pull production control systems, and operations scheduling. Pre or Corequisite: INEG 3613. Prerequisite: INEG 2333.

**INEG 4563. Industrial Robotics (Fa). 3 Hours.**

An interdisciplinary treatment of: industrial robotics; manipulator anatomy, control, and programming; end-of arm tooling; sensors & sensing; system integration and safety; future trends. Significant out-of-class programming assignments to solve common industrial automation problems. Corequisite: Lab component. Prerequisite: Senior standing.

**INEG 4583. Renewable Energy: Green Power Sources (Sp). 3 Hours.**

Current developments in renewable energy from a green power source where electricity, heating and fuel supply can be obtained other than typical energy sources. Technical and economical feasibilities and economic analyses of renewable energy considered for use in residential, small businesses, and industrial complexes. Prerequisite: Senior standing.

**INEG 4593. Manufacturing Systems (Irregular). 3 Hours.**

This course is designed to highlight the major topics in manufacturing systems. Different manufacturing models and metrics are emphasized. This course also introduces classification, general terminology, technical aspects, economics, and analysis of manufacturing systems. Corequisite: Lab component. Prerequisite: INEG 3513 or graduate standing.

**INEG 4633. Transportation Logistics (Irregular). 3 Hours.**

Quantitative aspects of transportation and logistics involving analysis and optimization. Topics include: facility location analysis, network design, network flow and transportation modeling, vehicle routing, fleet sizing, driver assignment, and supply chain issues (logistics demand, role of inventory in the network, role of technology, etc.). Prerequisite: INEG 2333 and INEG 3613.

**INEG 4683. Decision Support in Industrial Engineering (Sp). 3 Hours.**

Reinforcing important computer programming methods using industrial engineering-based applications. Students will utilize Microsoft Excel and Visual Basic for Applications to develop custom solutions to challenging industrial engineering problems. Emphasis on computational proficiency and computing productivity in a spreadsheet-based setting. Prerequisite: CSCE 2004 and INEG 2313.

**INEG 4733. Industrial Ergonomics (Irregular). 3 Hours.**

Gives background and experience in measurement and evaluation of human performance as it pertains to the working environment. The physical, physiological and psychological capabilities of the tasks they are to perform. Laboratory projects required. Prerequisite: INEG 4723 and INEG 2333.

**INEG 4833. Introduction to Database Concepts for Industrial Engineers (Irregular). 3 Hours.**

An introduction to the basic principles of database modeling and technologies for industrial engineers. Coverage includes analyzing user requirements, representing data using conceptual modeling techniques (e.g. UML, ERD), converting conceptual models to relational implementations via database design methodologies, extracting data via structured query language processing, and understanding the role of database technology in industrial engineering application areas such as inventory systems, manufacturing control, etc. The application of a desktop database application such as Access will be emphasized. Prerequisite: CSCE 2004.

**INEG 4904. Industrial Engineering Design (Sp, Fa). 4 Hours.**

Comprehensive design problem for an industrial enterprise; integration of preceding courses through development of physical systems and organizational characteristics, financial aspects, product analysis, equipment selection, production layout, distribution systems, and overall economic analysis. Students must be in last long semester of degree program. Corequisite: Lab component. Prerequisite: INEG 2413, INEG 2513, INEG 3613, INEG 3623, INEG 4433, INEG 4553, INEG 4723.

**INEG 4911. Industrial Engineering Capstone Experience I (Fa). 1 Hour.**

Develop a written and oral proposal for a comprehensive project for an industrial sponsor. Conduct background research, data collection, and preliminary analysis using industrial engineering tools; define objectives, performance measures, and deliverables; identify and schedule required tasks. Pre- or Corequisite: INEG 2001, INEG 3613, INEG 3623, INEG 3723, INEG 4433, and INEG 4553.

**INEG 4923. Industrial Engineering Capstone Experience II (Sp). 3 Hours.**

Develop a written and oral report for a comprehensive project for an industrial sponsor. Complete identified tasks and measure success in achieving defined objectives using industrial engineering tools; create and document deliverables. Students must have successfully completed INEG 4911 in the immediately prior semester. Prerequisite: INEG 4911.

**INEG 5123. Industrial Engineering in the Service Sector (Irregular). 3 Hours.**

Review of the development of industrial engineering into the service sector, e.g., health care systems, banking, municipal services, utilities, and postal service. Emphasizes those principles and methodologies applicable to the solutions of problems within the service industries. Prerequisite: Graduate standing. This course is cross-listed with OMGT 5133.

**INEG 513V. Master's Research Project and Report (Sp, Su, Fa). 1-6 Hour.**

Required course for students electing the report option.

**INEG 514V. Special Topics in Industrial Engineering (Irregular). 1-3 Hour.**

Consideration of current industrial engineering topics not covered in other courses. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

**INEG 515V. Individual Study in Industrial Engineering (Sp, Su, Fa). 1-3 Hour.**

Opportunity for individual study of advanced subjects related to a graduate industrial engineering program to suit individual requirements. Prerequisite: Graduate standing.

**INEG 5243. Automated Manufacturing (Irregular). 3 Hours.**

Introduction to manufacturing processes and concurrent engineering in the electronics industry. Survey of electronics components and products and the processes of fabrication and assembly. Principles of design, productivity, quality, and economics. Emphasis on manufacturability.

**INEG 5253. Leadership Principles and Practices (Fa). 3 Hours.**

The course is designed to expose students to multiple approaches to leadership in a wide variety of settings. Leadership styles, the knowledge areas and competencies expected of today's leaders, the challenges leaders face, the historical and philosophical foundations of leadership, the relationships among leadership theory, leadership practice, and the moral-ethical aspects of leadership are among the topics covered in the course. A number of respected regional, national, and international leaders share "lessons learned" in their leadership journeys. Plus, a number of highly regarded leadership books and case studies on leadership are read and discussed. Students may not receive credit for INEG 4253 and INEG 5253/OMGT 5253.

This course is cross-listed with OMGT 5253.

**INEG 5263. Engineering Statistics (Fa). 3 Hours.**

A graduate level engineering statistics course covering functions of random variables, properties and distributions of random samples, theory of statistical inference, and rationales of testing hypotheses and constructing confidence intervals. Prerequisite: MATH 2574 and INEG 2313.

**INEG 5313. Engineering Applications of Probability Theory (Fa). 3 Hours.**

Introduction to probability, discrete random variables, continuous random variables, multiple random variables, sequences of Bernoulli trials. Applications of these topics from inventory, reliability, quality control.

**INEG 5323. Engineering Applications of Stochastic Processes (Sp). 3 Hours.**

Renewal processes, Poisson processes, discrete-time Markov chains, continuous-time Markov chains. Applications of these topics from inventory, reliability, quality control, queueing.

**INEG 5333. Design of Industrial Experiments (Irregular). 3 Hours.**

Statistical analysis as applied to problems and experiments in engineering and industrial research; experiment design and analysis; probability; and response surface analysis. Prerequisite: INEG 2313 or equivalent.

**INEG 5343. Advanced Quality Control Methods (Irregular). 3 Hours.**

Acceptance sampling by attributes; single, double, sequential, and multiple sampling plans; sampling plans; sampling plans of Department of Defense; acceptance sampling by variables; Bayesian acceptance sampling; rectifying inspection for lot-by-lot sampling; control charts; special devices; and procedures. Prerequisite: INEG 2313.

**INEG 5373. Repairable Systems Modeling (Irregular). 3 Hours.**

Applications of probability, statistics, simulation and optimization to problems related to 1) modeling the performance of repairable equipment; 2) designing optimal inspection and maintenance policies for repairable equipment; and 3) optimizing the allocation of maintenance resources.



**INEG 5383. Risk Analysis for Transportation and Logistics Systems (Irregular). 3 Hours.**

Fundamentals of modeling risk, analyzing risk, and managing risk in a variety of industrial and government decision-making settings. Risk measurement and model building, uncertainty quantification, and multi-objective trade-offs. Credit cannot be earned for both INEG 4383 and INEG 5383.

**INEG 5393. Applied Regression Analysis for Engineers (Irregular). 3 Hours.**

Present concepts and applications to introduce statistical tools for discovering relationships among variables. Focus on fitting and checking linear and nonlinear regression models. Practical tools for engineers.

**INEG 5433. Cost Estimation Models (Irregular). 3 Hours.**

Overview of cost estimation techniques and methodologies applied to manufacturing and service organizations. Accomplished through detailed analysis of the cost estimation development process and various cost estimation models. Topics include data collection and management, learning curves, activity based costing, detailed and parametric estimation models, and handling risk and uncertainty. Prerequisite: INEG 2313.

This course is cross-listed with OMGT 5433.

**INEG 5443. Decision Models (Irregular). 3 Hours.**

Focus on quantitative decision models for technical and managerial problems for private and public organizations. Topics include shareholder value, stakeholder value, Value-Focused Thinking, axioms of decision analysis, decision making challenges, decision traps, cognitive biases, decision processes, decision framing, influence diagrams, value hierarchy structuring, designing creative alternatives, single objective models, multiobjective additive value model, swing weights, sensitivity analysis, portfolio decision models with binary linear programming, probability elicitation, Bayes Law, decision trees, Monte Carlo simulation, expected value, dominance (deterministic and stochastic), tornado diagrams, value of information, risk preference, utility models, expected utility, and communicating analysis insights. Prerequisite: INEG 2313.

This course is cross-listed with OMGT 5443.

**INEG 5523. Topics in Automated Systems (Irregular). 3 Hours.**

To understand current developments in applications of flexible automation to industrial processes. Robotics, machine vision and other sensors, human machine interface, AML/2 and V+ programming languages.

**INEG 5533. Network Optimization in Transportation Logistics (Sp). 3 Hours.**

Focus on quantitative modeling and analysis of network optimization problems and their application in logistics system design and operation. Topics include network design and routing and location analysis, with emphasis on the application of both exact and heuristic solution techniques for large-scale instances of such problems. Prerequisite: INEG 5613.

**INEG 5543. Distribution Center Design & Operations (Irregular). 3 Hours.**

To introduce the student to the field of facility logistics, as applied to distribution centers (DCs). The fundamental areas of facility design and operations (material handling systems) will be covered. Prerequisite: INEG 5613.

**INEG 5563. Industrial Robotics (Fa). 3 Hours.**

An interdisciplinary treatment of industrial robotics; manipulator anatomy, control, and programming; end-of arm tooling; sensors & sensing; system integration and safety; current research topics. Graduate-level lab assignments and examinations. Significant literature review and writing assignments. Not open to students with credit for INEG 4563. Prerequisite: Graduate standing or instructor consent.

**INEG 5613. Introduction to Optimization Theory (Fa). 3 Hours.**

A graduate level introduction to the foundational rationales of numerical optimization methods including linear programming, integer programming, network flows, and discrete dynamic programming. Model formulation and tractability, search strategies, characterization of optimal solutions, duality and sensitivity, outcome justification.

Prerequisite: Graduate standing.

**INEG 5623. Analysis of Inventory Systems (Irregular). 3 Hours.**

Elements of production and inventory control, economic lot size models, price breaks models using Lagrangian method, deterministic dynamic inventory model, probabilistic one-period and multi-period models, zero and positive lead time models, and continuous review models. Prerequisite: INEG 5313.

**INEG 5643. Optimization Theory II (Irregular). 3 Hours.**

Classical optimization theory, Lagrangian and Jacobian methods, Kuhn-Tucker theory and constraint qualification, duality in nonlinear problems; separable programming, quadratic programming, geometric programming, stochastic programming, steepest ascent method, convex combinations method, SUMT, Fibonacci search, and golden section method. Prerequisite: INEG 5613.

**INEG 5653. Modeling and Analysis of Semiconductor Manufacturing (Irregular). 3 Hours.**

Introduction to front end of semiconductor manufacturing process, wafer processing. Topics include an introduction to wafer processing, factory and equipment capacity modeling, automated material handling, simulation, cost modeling, and production scheduling. Prerequisite: INEG 2313.

**INEG 5663. Analysis of Queuing Systems (Irregular). 3 Hours.**

Poisson axioms, pure birth and death model, queue disciplines (M/M/1) and (M/M/c) models, machine servicing model, Pollazek-Khintchine formula, priority queues, and queues in series. Markovian analysis of (GI/M/K) (M/G/1) models, and bulk queues. Reneging, balking, and jockeying phenomena. Transient behavior. Prerequisite: INEG 5313.

**INEG 5683. Nonlinear Programming (Irregular). 3 Hours.**

An introduction to the theory and methodology of nonlinear programming. Focus on engineering and management science applications of nonlinear optimization. Both single and multi-variable as well as unconstrained and constrained problems are addressed.

**INEG 5693. Heuristic Optimization (Irregular). 3 Hours.**

Theory and applications of methodological approaches explicitly addressed to heuristic or approximate optimization of integer and combinatorial models. Prerequisite: INEG 5613.

**INEG 5803. Simulation (Irregular). 3 Hours.**

The development and use of discrete-event simulation models for the analysis and design of systems found in manufacturing, distribution, and service contexts. Coverage includes conceptual modeling, model translation to computer form, statistical input models, random number generation and Monte Carlo methods, experimentation and statistical output analysis, and queuing analysis. Includes the use of modern computer simulation languages. Cannot receive credit for both INEG 3623 and INEG 5803. Corequisite: drill component.

**INEG 5813. Introduction to Simulation (Irregular). 3 Hours.**

Development and use of discrete-event simulation models for the analysis and design of systems found in manufacturing, distribution, and service contexts. Coverage includes conceptual modeling, model translation to computer form, statistical input models, random number generation and Monte Carlo methods, experimentation and statistical output analysis, and queuing analysis. For off-campus, distance education students only.

**INEG 5823. Systems Simulation I (Irregular). 3 Hours.**

Random number generation, random variate generation, timekeeping in simulations, discrete event modeling, construction of digital simulation models, statistical analysis of simulation results, and analysis of simulation experiments utilizing a computer programming language. Prerequisite: INEG 3623 or INEG 5803 or equivalent.

**INEG 5843. Scheduling and Sequencing I (Irregular). 3 Hours.**

An introduction to constructive algorithms and various operations research approaches for solving sequencing and scheduling problems. The NP-completeness of most scheduling problems leads to a discussion of computational complexity, the use of heuristic solution methods, and the development of worst case bounds. Prerequisite: INEG 3613 and computer programming proficiency.

**INEG 600V. Master's Thesis (Sp, Su, Fa). 1-9 Hour.**

Master's Thesis. May be repeated for degree credit.

**INEG 6113. Linear Optimization (Fa). 3 Hours.**

A precise treatment of linear programming. Theory of convex sets, linear inequalities; development of the simplex method; duality theory; post optimality application and interpretation. Variants of the simplex methods and interior-point algorithms are discussed. Prerequisite: INEG 5613.

**INEG 614V. Special Topics for Doctoral Students in Industrial Engineering (Irregular). 1-3 Hour.**

Consideration of current industrial engineering topics at the doctoral level that are not covered in other courses. Prerequisite: PhD student in Industrial Engineering or consent of the instructor. May be repeated for up to 6 hours of degree credit.

**INEG 6213. Integer Programming (Sp). 3 Hours.**

This course offers the theory needed to model and efficiently solve large-scale binary, mixed and general integer programs. The tools needed to assess the computational complexity of these problems will be fully studied. Additional topics include the conceptual foundation required for the development of cutting plane, branch-and-price, Lagrange relaxation and constraint programming approaches. Implementation considerations specific to preprocessing, valid inequality generation and solution methodology convergence will be emphasized. Prerequisite: INEG 6113.

**INEG 6313. Network Optimization (Fa). 3 Hours.**

A theorem/proof based advanced study providing rigorous exposition of foundational network optimization concepts including relevant optimization theory, algorithm development techniques, complexity analysis, data structures, and important applications. Prerequisite: INEG 6113.

**INEG 6363. Generalized Linear Models (Irregular). 3 Hours.**

Introduce the generalized linear model (GLM), inference, likelihood and diagnostics. Apply log linear and logistic models. Develop techniques for growth curves, and longitudinal and survival data. Cover spatial and normal linear models, and dynamic GLM for dependent data.

**INEG 6613. Operations Research Applications (Irregular). 3 Hours.**

Investigation of literature case studies; use of mathematical models to solve practical problems; data collection and solution implementation. Students work in teams on actual problems observed in industry and government. Prerequisite: INEG 3623, INEG 5313 and INEG 5613.

**INEG 6823. Systems Simulation II (Irregular). 3 Hours.**

Advanced topics in computer simulation including experimental design, simulation optimization, variance reduction, and statistical output analysis techniques applied to discrete event simulation. Prerequisite: INEG 5823.

**INEG 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Doctoral Dissertation. May be repeated for degree credit.

## Information Systems (ISYS)

### Courses

**ISYS 1120. Computer Competency Requirement (Sp, Su, Fa). 0 Hours.**

Students entering the Walton College are expected to possess basic competencies in MS Windows, Word, Excel, and PowerPoint. The requirement is expected to be completed in an 8-week session. Deficiencies may be remedied through appropriate self-paced, computer-based instruction and/or alternative courses. Prerequisite: Students must earn a pre-assessment score of 70 or higher and department consent.

**ISYS 1123. Business Application Knowledge - Computer Competency (Sp, Su, Fa). 3 Hours.**

An introduction to computer literacy using information business application software; email/Internet; word processing; spreadsheets; presentation; database; collaborative/groupware; and integration of computer applications. Introduces the student to computer Concepts and Microsoft Office (Word, Excel, Windows, and PowerPoint) to manage finances, work with formulas, charts and graphics, and the development of professional worksheets and presentations. Students learn business computing through appropriate self-paced, computer-based instruction. Non-degree credit for business students; may be used to fulfill WCOB 1120 degree requirement if student earns a grade of C or better.

**ISYS 2103. Business Information Systems (Sp, Su, Fa). 3 Hours.**

This course presents the fundamentals of business information systems (IS) topics essential to today's business graduate. Applied areas of business will be used to provide the context for the IS topics, business applications, and management challenges. The broad objective of this course is to present students with a business and information systems framework that will allow them to envision how business decisions are enabled and empowered by information systems and technology. Corequisite: WCOB 2053 or ACCT 2023. Prerequisite: ISYS 1120 or ISYS 1123 and WCOB 1033 each with a grade of C or better.

**ISYS 2103H. Honors Business Information Systems (Sp, Su, Fa). 3 Hours.**

This course presents the fundamentals of business information systems (IS) topics essential to today's business graduate. Applied areas of business will be used to provide the context for the IS topics, business applications, and management challenges. The broad objective of this course is to present students with a business and information systems framework that will allow them to envision how business decisions are enabled and empowered by information systems and technology. Corequisite: WCOB 2053 or ACCT 2023. Prerequisite: ISYS 1120 or ISYS 1123 with a grade of C or better.

This course is equivalent to ISYS 2103.

**ISYS 2263. Principles of Information Systems (Sp, Fa). 3 Hours.**

This course presents the fundamental concepts used in developing information systems. It provides a framework for students to use throughout their software development coursework. Also includes management of information systems concepts. This course requires extensive use of computer systems. Prerequisite: ACCT 2013 or WCOB 1023, and MATH 2053 each with a grade of C or better.

**ISYS 3293. Systems Analysis and Design (Sp, Fa). 3 Hours.**

Practice and application of one structured analysis methodology; development of structured analysis specification; exposure to other methodologies; quality assurance and walkthroughs; survey of real systems and their components. Prerequisite: ISYS 2263 or CSCE 2014 with a grade of "C" or better.

**ISYS 3393. Business Application Development Fundamentals (Sp). 3 Hours.**

Principles of design and development of windows and web applications using cutting edge visual development tools included in Visual Studio. The programming language will be Visual Basic and its use in Windows applications and in conjunction with active server pages and XML for web applications. Pre- or Corequisite: ISYS 3293. Prerequisite: ISYS 2263 or CSCE 2014 with a grade of "C" or better.

**ISYS 4003H. Honors Information Systems Colloquium (Fa). 3 Hours.**

Explores events, concepts and/or new developments in the field of Computer Information Systems and Quantitative Analysis. Prerequisite: Senior standing.

**ISYS 4193. Business Analytics and Visualization (Fa). 3 Hours.**

Introductory study of business analytics, visualization, and systems to provide analytics-based information derived from data within and/or external to the organization. Business analytics used to support management in the decision making. Application of tools in business analytics, problem solving, visualization, and decision making. Prerequisite: WCOB 1033 with a grade of "C" or better.

**ISYS 4213. ERP Fundamentals (Sp, Fa). 3 Hours.**

An introduction to enterprise resource planning systems. Students should gain an understanding of the scope of these integrated systems that reach across organizational boundaries and can change how a company does business. Implementation issues are covered, including the importance of change management. Prerequisite: (WCOB 2023 or ISYS 2103) and (ACCT 2013 with a grade of C or better) or CSCE 2004 each with a grade of C or better.

**ISYS 4223. ERP Configuration and Implementation (Fa). 3 Hours.**

The process of configuring and implementing an enterprise resource planning system. Business process analysis and integration. Students will develop a company and set up several modules in SAP R/3 for use. Develop understanding of how the business processes work and integrate. Prerequisite: WCOB 4213 with a grade of "C" or better.

**ISYS 4233. Seminar in ERP Development (Sp). 3 Hours.**

ERP administration and system development practices. Advanced system support issues related to Enterprise Resource Planning systems that are used in global organizations. Basic ABAP programming. In addition, students will learn how to provide basic systems administration support of the operating system, database, and application systems software levels or ERP systems. Pre- or Corequisite: WCOB 4223 with a grade of "C" or better.

**ISYS 4243. Current Topics in Computer Information (Irregular). 3 Hours.**

Intensive investigation of selected developments in computer information systems hardware, software, and organization having current impact on computer information systems design and application. Offering an extension of lower-level CIS courses through individual student research and faculty team-teaching of advanced topics. Topical selection made with each course offering. Prerequisite: Junior standing. May be repeated for up to 6 hours of degree credit.

**ISYS 4283. Business Database Systems (Fa). 3 Hours.**

Introduces student to centralized information system design and implementation for business applications. In-depth study of logical systems modeling; physical file management; and software requirements. Pre- or Corequisite: ISYS 3393. Prerequisite: ISYS 3293 with a grade of C or better.

**ISYS 4293. Business Intelligence (Sp). 3 Hours.**

Business intelligence focuses on creating, developing and storing information and knowledge from internal and external sources to better support business decisions. We will consider techniques from machine learning, data mining, and information retrieval to extract useful knowledge from data, which could be used for business intelligence, personalization or user profiling. Prerequisite: ISYS 4193 with a grade of "C" or better.

**ISYS 4363. Business Project Development (Sp). 3 Hours.**

Review of fundamentals of application processing systems design and development; implementation of such a system by class. Prerequisite: ISYS 3393 and ISYS 4283 each with a grade of "C" or better.

**ISYS 4373. Application Development with Java (Fa). 3 Hours.**

This course covers object-oriented programming concepts and illustrates them via an appropriate object-oriented programming language. Students will be exposed to the design of software objects, creation of software objects, and the use of objects in constructing an information system. Prerequisite: ISYS 3293 with a grade of C or better.

**ISYS 4393. Seminar in Applied Business Analytics (Sp). 3 Hours.**

Application of business analytics, business intelligence, data mining, and data visualization to business problem solving. Business Analytics techniques using current and relevant software are applied to current business problems for presentation to management. Pre- or Corequisite: ISYS 4293.

**ISYS 4453. Introduction to Enterprise Servers (Fa). 3 Hours.**

The focus of this course is to expose students to working with large scale mainframe computer systems. Mainframe computers are the heart of large company's transaction processing systems. This course provides the opportunity for students to gain valuable insight into computing in a mainframe operating environment. Prerequisite: ISYS 2263 or CSCE 2014 with a grade of "C" or better.

**ISYS 4463. Enterprise Transaction Systems (Sp). 3 Hours.**

Being able to accurately capture and store business transactions is an important processing function in many businesses. For many large companies with high volume processing, the tools of choice for transaction processing are CICS/Cobol/DB2. This course provides students with the necessary understanding and skills to work in this type environment. Prerequisite: ISYS 2263 or CSCE 2014 or ISYS 4453 with a grade of "C" or better.

**ISYS 450V. Independent Study (Sp, Fa). 1-3 Hour.**

Permits students on individual basis to explore selected topics in data processing and/or Quantitative Analysis.

**ISYS 5103. Data Analytics Fundamentals (Fa). 3 Hours.**

Fundamental knowledge and skills in several major areas of business data analytics. Emphasis on the management and use of data in modern organizations, intermediate & advanced spreadsheet topics; relational databases & SQL; and programming (such as Python). Prerequisite: MIS Director approval.

**ISYS 511V. IT Toolkit & Skills Seminar (Irregular). 1-3 Hour.**

Seminar in Information Systems solutions and concepts (such as applications development, VB.NET, analysis of problems and design of solutions via application systems, etc.) designed for students entering the MIS program--may not be used for MIS degree credit. Prerequisite: MIS Director approval. May be repeated for up to 3 hours of degree credit.

**ISYS 5133. E Business Development and Analytics (Fa). 3 Hours.**

This course explores various e-business development technologies and then utilizes the technologies for developing a relatively realistic business-to-consumer (B2C) e-business site. Students will also learn about Business to Business (B2B) strategies, market exchanges, XML and XML Web services applications. Simple XML Web services will also be created. Prerequisite: ISYS 511V.

**ISYS 5203. Experimental Design (Fa). 3 Hours.**

ANOVA, experimental design, introduction to basis of statistics. Prerequisite: Graduate standing and WCOB 1033 or equivalent.

**ISYS 5213. ERP Fundamentals (Su, Fa). 3 Hours.**

An introduction to enterprise resource planning systems. Students should gain an understanding of the scope of these integrated systems that reach across organizational boundaries and can change how a company does business. Implementation issues are covered, including the importance of change management. Prerequisite: Graduate standing.

**ISYS 5223. ERP Configuration and Implementation (Sp, Fa). 3 Hours.**

The process of configuring and implementing an enterprise resource planning system. Business process analysis and integration. Students will develop a company and set up several modules in SAP for use. Develop understanding of how the business processes work and integrate. Prerequisite: ISYS 5213 or equivalent.

**ISYS 5233. Seminar in ERP Development (Sp). 3 Hours.**

ERP administration and system development practices. Advanced system support issues related to Enterprise Resource Planning systems that are used in global organizations. Basic ABAP programming. In addition, students will learn how to provide basic systems administration support of the operating system, database, and application systems software levels of ERP systems. Pre- or Corequisite: ISYS 5223. Prerequisite: ISYS 5213. May be repeated for up to 6 hours of degree credit.

**ISYS 535V. Internship Experience (Sp, Su, Fa). 1-6 Hour.**

This course allows a student to experience an internship within a business and benefit from the work experience. The internship focuses on applications and business problems and is supervised by a faculty member as well as a member of the company/firm. Prerequisite: MIS Director approval is required. May be repeated for up to 6 hours of degree credit.

**ISYS 5363. Business Analytics (Sp). 3 Hours.**

This course in managerial business analytics provides future managers with the key concepts of decision modeling and information technology management concepts. Students will learn to utilize real time operational business data, as well as quickly process and effectively leverage information. In addition, students will exercise strategic IT deployment skills for supply chain and marketing processes as well as develop strong decision modeling abilities.

**ISYS 5403. Quantitative Methods and Decision Making (Irregular). 3 Hours.**

Utilization of information, quantitative techniques, and computer application in decision making and problem solving for managers.  
This course is cross-listed with SCMT 5133.

**ISYS 5423. Seminar in Systems Development (Fa). 3 Hours.**

Advanced study of structured systems development. Emphasis on strategies and techniques of structured analysis and structured design for producing logical systems specifications and for deriving physical systems designs. Coverage of methodologies for dealing with complexity in the development of information systems. Prerequisite: ISYS 511V.

**ISYS 5433. Enterprise Systems (Sp). 3 Hours.**

Enterprise Systems comprises the entire class of information technology and systems that support the mission of the company including decision support and business processes. This managerial enterprise systems course focuses on strategic issues of information technology. Students study the various elements and integration of an organization's business processes; as a result, students gain an understanding and working knowledge of systems used to support these business processes and their use in decision making. In addition, students will study concepts and develop skills needed to utilize decision-centric business intelligence and knowledge management applications.

**ISYS 5453. Enterprise Data (Sp). 3 Hours.**

The focus of this course is to expose students to working with large scale mainframe computer systems. Mainframe computers are the heart of large company's transaction processing systems. This course provides the opportunity for students to gain valuable insight into computing in a mainframe operating environment. Pre- or Corequisite: ISYS 5833.

**ISYS 5463. Enterprise Transaction Systems (Irregular). 3 Hours.**

Being able to accurately capture and store business transactions is an important processing function in many businesses. For many large companies with high volume processing, the tools of choice for transaction processing are CICS/Cobol/DB2. This course provides students with the necessary understanding and skills to work in this type environment. Pre- or Corequisite: ISYS 5453 or equivalent or MIS Director approval.

**ISYS 5503. Decision Support and Analytics (Fa). 3 Hours.**

Analysis of the highest level of information support for the manager-user. A study of systems providing analytics-based information derived from databases within and/or external to the organization and used to support management in the decision making. Application of tools in business analytics, problem solving, and decision making. Prerequisite: MIS Director approval.

**ISYS 5603. Analytics and Visualization (Fa). 3 Hours.**

This course focuses on how to discern and tell your story visually using data based on traditional graphical data representation as well as the latest data and information technologies. Coverage includes both visualization theory and hands-on exercises using appropriate computing tools. The course will also include visualization of predictive, clustering, and association models. The opportunities and challenges of Big Data visualization will be explored. Prerequisite: (ISYS 5503) or (ISYS 5133 and departmental consent).

**ISYS 5613. Business Applications of Nonparametric Techniques (Sp). 3 Hours.**

Consideration of business and economic research related to sampling and experimental design, testing of hypothesis, and using nonparametric tests. Prerequisite: ISYS 5203 or equivalent.

**ISYS 5623. Multivariate Analysis (Sp). 3 Hours.**

Principal component analysis, regression analyses. Prerequisite: ISYS 5203.

**ISYS 5713. Seminar in IS Topics (Irregular). 3 Hours.**

Intensive seminar in selected information systems topics. Topical selection made with each course offering. Prerequisite: ISYS 511V or MIS Director approval. May be repeated for up to 9 hours of degree credit.

**ISYS 5723. Advanced Multivariate Analysis (Irregular). 3 Hours.**

Factor analysis and other advanced techniques. Prerequisite: ISYS 5623.

**ISYS 5833. Data Management Systems (Sp). 3 Hours.**

Investigation and application of advanced database concepts include database administration, database technology, and selection and acquisition of database management systems. Data modeling and system development in a database environment. Prerequisite: ISYS 5103.

**ISYS 5843. Seminar in Business Intelligence and Knowledge Management (Sp). 3 Hours.**

Business intelligence focuses on assessing and creating information and knowledge from internal and external sources to support business decision making process. In this seminar, data mining and information retrieval techniques will be used to extract useful knowledge from data, which could be used for business intelligence, and knowledge management. Pre- or Corequisite: ISYS 5833 or equivalent. Prerequisite: ISYS 5503 or equivalent.

**ISYS 5933. Global Technology and Analytics Seminar (Su). 3 Hours.**

This course is designed to provide an updated, comprehensive, and rigorous treatment of emerging global topics. Includes, but is not limited to, global study experiences, business insights, and foundational perspectives; examines significant issues from global perspectives. Prerequisite: Graduate standing and MIS Director approval.

**ISYS 5943. Management of Information Technology Seminar (Sp). 3 Hours.**

Presented in a way that allows you to play an active role in the design, use, and management of information technology. Using IT to transform the organization, as competitive strategy, and creating new relationship with other firms is included. Pre- or Corequisite: ISYS 5833. Prerequisite: ISYS 5423.

**ISYS 599V. Practicum Seminar (Sp, Su, Fa). 3-6 Hour.**

This course is designed to introduce and engage the student in the practice, application, and problem solving in the business environment. Hands-on application of a business problem. Students will gain experience working on, making decisions about, and developing solutions for business applications. Topics include but not limited to analytics, data, and information technology. Prerequisite: Graduate standing and MIS Director approval. May be repeated for up to 6 hours of degree credit.

**ISYS 601V. Graduate Colloquium (Sp, Fa). 1-6 Hour.**

Presentation and critique of research papers and proposals.

**ISYS 6133. Survey of IS Research (Fa). 3 Hours.**

This is an introductory seminar in information systems research for doctoral students. Its objective is to introduce participants to major streams of IS research and discuss many of the important roles and responsibilities of an IS researcher. Also, this course will play the important role of introducing participants to the research of the current IS faculty.

**ISYS 6233. IS Research Projects (Irregular). 3 Hours.**

The students will understand the ideas underlying a scientific contribution; understand the practical challenges in designing and executing a study; Design and execute a study; Write an empirical journal article.

**ISYS 6333. Individual-level Research in IS (Irregular). 3 Hours.**

This course aims to expose students to individual-level research in IS. It provides a window into major streams of individual-level research in IS and reference disciplines. May be repeated for up to 18 hours of degree credit.

**ISYS 636V. Special Problems (Irregular). 1-6 Hour.**

Independent reading and research under supervision of senior staff member. May be repeated for up to 6 hours of degree credit.

**ISYS 6423. Structural Equation Modeling (Irregular). 3 Hours.**

Structural equation modeling using current tools, such as AMOS. This course is cross-listed with MKTG 6423, SCMT 6423.

**ISYS 6433. Team-level Research in IS (Irregular). 3 Hours.**

This course aims to expose students to team-level research in IS. It provides a window into major streams of team-level research in IS and reference disciplines.

**ISYS 6533. Macro- and Meso-level IS Research (Irregular). 3 Hours.**

This course aims to expose students to research at the macro- and meso-levels. For example, it could provide a window into major streams of organizational-level research in IS and reference disciplines. Topics could also include: change management, ERP research models, implementation, applications, and successes/failures, and ERP simulation models. Other topics that fall within the purview of the course are: large-scale technology and process innovations in organizations--e.g., software development process innovations and RFID will be examined at various levels (e.g., organizational).

**ISYS 6633. Systems Development (Irregular). 3 Hours.**

The course provides an in-depth study of systems development as an area of research, understanding of the theoretical and conceptual foundations, insight into the current state of the research area, utilizes both IS and reference discipline literature as appropriate, guidance for conducting research projects and producing publishable research, an opportunity to work on cutting-edge research.

**ISYS 6733. Emerging Topics (Irregular). 3 Hours.**

Various emerging topics, such as RFID applications and RFID supply chain, ethical decision models, behavioral modeling, piracy and privacy issues, and virtual worlds.

**ISYS 6833. Theory Development (Irregular). 3 Hours.**

To acquire theory development and writing skills, to understand challenges in developing and writing theory sections of papers, and to discuss approaches to writing good empirical journal articles. This course is suited for all social sciences students and is particularly appropriate for students conducting behavioral research in the business disciplines.

**ISYS 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Doctoral Dissertation. Prerequisite: Candidacy. May be repeated for degree credit.

## Interdisciplinary Studies (IDST) Courses

**IDST 2003. Introduction to Interdisciplinary Studies (Fa). 3 Hours.**

Introduces students to the concept of interdisciplinary studies. May be taken by students considering pursuit of an Interdisciplinary Studies major or by students in their first semester following acceptance into the program. Required of all Interdisciplinary Studies majors.

## Interior Design (IDES) Courses

**IDES 1003. Basic Course in the Arts: Interior Design Lecture (Irregular). 3 Hours.**

A general introduction to the field and the profession of interior design, as well as increasing the student's appreciation of the relationship between the enclosing architecture of the space and the interior environment.

**IDES 1003H. Honors Basic Course in the Arts: Interior Design Lecture (Su, Fa). 3 Hours.**

A general introduction to the field and the profession of interior design, as well as increasing the student's appreciation of the relationship between the enclosing architecture of the space and the interior environment. This course is equivalent to IDES 1003.

**IDES 1035. Fundamental Design Skills (Su, Fa). 5 Hours.**

Fundamental design skills; development of visual and verbal communication skills including observation skills, design technologies, analysis and representation in both 2-dimensions and 3-dimensions through analog and digital tools; creative and critical thinking skills.

**IDES 1045. Fundamental Design Methodology (Sp, Su). 5 Hours.**

Fundamental design skills; use of precedents for understanding principles of design and natural and formal ordering systems; design development using both iterative and alternative methods of exploration in 2-dimensions and 3-dimensions using analog and digital tools; continued development of visual and verbal communication skills. Prerequisite: IDES 1035.

**IDES 2723. Digital Media in Design (Su, Fa). 3 Hours.**

Develops conceptual and practical knowledge of digital techniques on architectural and interior design production. The aim is to provide a foundation in digital modeling, drawings, renderings, and an introduction to digital fabrication. Prerequisite: Interior Design majors only.

**IDES 2804. Interior Design Studio III (Fa). 4 Hours.**

An introduction to interior space articulation and the creation of small scale spaces. Components of various presentation methods and formats. Overnight travel requires additional fees. Prerequisite: IDES 1045.

**IDES 2814. Interior Design Studio IV (Sp). 4 Hours.**

Studio activities with emphasis on conceptualization, design theory and applications, ideation, programming and computer application. Overnight travel required. Corequisite: IDES 2823. Prerequisite: IDES 2804.

**IDES 2823. Interior Design Materials (Sp). 3 Hours.**

A study of materials, resources and assemblies used in interior spaces.

**IDES 2823H. Honors Interior Design Materials (Sp). 3 Hours.**

A study of materials, resources and assemblies used in designing interior spaces. This course is equivalent to IDES 2823.

**IDES 2883. History of Interiors (Fa). 3 Hours.**

Study of historic interiors and furniture from antiquity through the present day. Identification of interior styles and furniture of these eras is emphasized.

**IDES 2883H. Honors History of Interiors (Fa). 3 Hours.**

Study of historic interiors and furniture from antiquity through the present day. Identification of interior styles and furniture of these eras is emphasized. This course is equivalent to IDES 2883.

**IDES 3805. Interior Design Studio V (Fa). 5 Hours.**

Emphasis on residential and/or commercial building systems. Continued development of presentation skills including hand and computer-based techniques. Corequisite: IDES 3833. Prerequisite: IDES 2814.

**IDES 3815. Interior Design Studio VI (Sp). 5 Hours.**

Advanced studio problems involving larger-scale interior spaces and contract documents for public use. Overnight field trip requires additional fees. Corequisite: IDES 4813. Prerequisite: IDES 3805 and IDES 3833.

**IDES 3833. Building Systems for Interior Design (Fa). 3 Hours.**

A survey course of building systems that addresses the design implications of heating/air conditioning/ventilation, plumbing, power, data/voice/and telecommunications, fire protection, security, and acoustical systems on building interiors. Performance characteristics and sustainable technologies will be addressed. Corequisite: IDES 3805. Prerequisite: IDES 2814 and IDES 2823.

**IDES 3833H. Honors Building Systems for Interior Design (Fa). 3 Hours.**

A survey course of building systems that addresses the design implications of heating/air conditioning/ventilation, plumbing, power, data/voice/and telecommunications, fire protection, security, and acoustical systems on building interiors. Performance characteristics and sustainable technologies will be addressed. Corequisite: IDES 3805. Prerequisite: IDES 2814 and IDES 2823. This course is equivalent to IDES 3833.

**IDES 3843. Lighting Systems (Sp). 3 Hours.**

Exploration of interior design applications of lighting systems. Corequisite: IDES 3815. Prerequisite: IDES 3805.

**IDES 3843H. Honors Lighting Systems (Sp). 3 Hours.**

Exploration of interior design applications of lighting systems. Corequisite: IDES 3815. Prerequisite: IDES 3805. This course is equivalent to IDES 3843.

**IDES 465V. Special Topics (Irregular). 1-6 Hour.**

A focused study of specialized topics in interior design. May be repeated for up to 6 hours of degree credit.

**IDES 4805. Interior Design Studio VII (Fa). 5 Hours.**

Comprehensive design studio synthesizing design skills, knowledge and critical thinking skills with emphasis on research, programming and process. Prerequisite: IDES 3815 and IDES 4823.

**IDES 4811. Internship for Interior Design (Su). 1 Hour.**

Supervised work experience and observation of operations/management procedures in approved design, government or service business. Prerequisite: IDES 3815.

**IDES 4813. Human Factors for Design (Sp). 3 Hours.**

Emphasis is given to human behavior as applied to the design disciplines. Types of interior spaces, environmental effects on behavior, ergonomics, and design needs of special groups, and human factors programs are studied. Lecture 3 hours per week. Corequisite: IDES 3815. Prerequisite: Completion of any two of the following: ANTH 1023, SOCI 2013, PSYC 2003, HESC 1403 or GEOG 1123.

**IDES 4813H. Honors Human Factors for Design (Sp). 3 Hours.**

Emphasis is given to human behavior as applied to interior design. Types of interior spaces, environmental effects on behavior, ergonomics, interior design needs of special groups, and human factors programs are studied. Lecture 3 hours per week. Corequisite: IDES 3815. Prerequisite: Completion of any two of the following: ANTH 1023, SOCI 2013, PSYC 2003, HESC 1403 or GEOG 1123. This course is equivalent to IDES 4813.

**IDES 4815. Interior Design Studio VIII (Sp). 5 Hours.**

Comprehensive design studio synthesizing design skills, knowledge, and critical thinking skills developed in previous design studios, including ideation, programming, construction, and human factors. Prerequisite: IDES 4805.

**IDES 4815H. Honors Interior Design Studio VIII (Sp). 5 Hours.**

Comprehensive design studio synthesizing design skills, knowledge, and critical thinking skills developed in previous design studios, including ideation, programming, construction, and human factors. Prerequisite: IDES 4805. This course is equivalent to IDES 4815.

**IDES 4823. Professional Practice for Interior Design (Fa). 3 Hours.**

General procedures for operating and maintaining an interior design business. Business documentation, communication, professional responsibilities and ethics. Corequisite: IDES 3805.

**IDES 4823H. Honors Professional Practice for Interior Design (Fa). 3 Hours.**

General procedures for operating and maintaining an interior design business. Business documentation, communication, professional responsibilities and ethics. Corequisite: IDES 3805. This course is equivalent to IDES 4823.

**IDES 485V. Design Tours (Irregular). 1-3 Hour.**

Domestic and international study tours of a variety of design locations that contribute to the body of knowledge. Prerequisite: IDES 2814.

**IDES 4943. Perspectives on Historic Preservation (Fa). 3 Hours.**

Introduction of history, theory, and praxis of preservation design, emphasizing development and implementation of preservation projects in the practices of architecture, landscape architecture and interior design. Central themes include: preservation as a form of design; principles, rationales, and ideologies associated with preservation practice; and sustainable strategies for preservation design. Prerequisite: ARCH 2233 and ARCH 2243 or LARC 3413 and LARC 4413 or IDES 2883.

This course is cross-listed with LARC 4943, ARCH 4943.

## International Studies (INST) Courses

**INST 2013. Introduction to International Studies (Sp). 3 Hours.**

A historical and contemporary overview of the relations and interactions between peoples across borders, between cultures and societies, states and non-state actors, governments and non-governmental organizations, and economies, both local and global.

**INST 300V. Internship in International Studies (Su). 1-6 Hour.**

Internship in international studies-related agency or organization, arranged by the student and/or faculty member, under the guidance of a faculty member. May be repeated for up to 6 hours of degree credit.

**INST 399VH. Honors Thesis (Sp, Su, Fa). 1-6 Hour.**

To be used for completing an International Studies Honors Thesis. Prerequisite: Junior standing. May be repeated for up to 6 hours of degree credit.

**INST 4003. International Studies Seminar (Fa). 3 Hours.**

The capstone course in international studies involves intensive study of major global trends and issues. Students choose a research project culminating in a senior thesis to meet the College writing requirement. Prerequisite: PLSC 2813 or INST 2013 or equivalent. May be repeated for up to 6 hours of degree credit.

This course is cross-listed with INST 4003H.

**INST 4003H. Honors International Studies Seminar (Su, Fa). 3 Hours.**

The capstone course in international studies involves intensive study of major global trends and issues. Students choose a research project culminating in a senior thesis to meet the College writing requirement. Prerequisite: PLSC 2813 or INST 2013 or equivalent.

This course is cross-listed with INST 4003.

**INST 406V. Independent Study in International Studies (Irregular). 1-6 Hour.**

Independent study in international studies. Arranged in agreement and under the guidance of a faculty member. May be repeated for up to 6 hours of degree credit.

## Italian (ITAL) Courses

**ITAL 1003. Elementary Italian I (Fa). 3 Hours.****ITAL 1013. Elementary Italian II (Sp). 3 Hours.**

Elementary courses stress correct pronunciation, aural comprehension, and simple speaking ability, and lead to active mastery of basic grammar and limited reading ability.

**ITAL 2003. Intermediate Italian I (Fa). 3 Hours.**

Intermediate courses lead to greater facility in spoken language and to more advanced reading skills.

**ITAL 2013. Intermediate Italian II (Sp). 3 Hours.**

Continued development of basic speaking comprehension, and writing skills and intensive development of reading skills.

**ITAL 3033. Italian Conversation (Fa). 3 Hours.**

Three hours per week of guided conversation practice for the post-intermediate student. Prerequisite: ITAL 2013.

**ITAL 3103. Italian Cinema (Fa). 3 Hours.**

Examines Italian culture (history, language, politics, religion, and society) through the lens of the camera. Content begins with the 1860's, covers the Unification of Italy, and continues to contemporary Italy. Students will analyze and examine diverse cultural themes within films.

**ITAL 3113. Introduction to Literature (Sp). 3 Hours.**

Development of reading skills and introduction to literary analysis. Prerequisite: ITAL 2013 or equivalent. May be repeated for up to 3 hours of degree credit.

**ITAL 3123. Advanced Italian (Sp). 3 Hours.**

Further intensive development of writing, listening and speaking skills. It will include a review of the essentials of Italian grammar. Prerequisite: ITAL 2013 or equivalent.

**ITAL 3983. Special Studies (Irregular). 3 Hours.**

May be offered in a subject not specifically covered by courses otherwise listed. May be repeated for up to 6 hours of degree credit.

**ITAL 4033. Advanced Italian Conversation (Fa). 3 Hours.**

Conversation practice for advanced undergraduates. Intended to refine language comprehension while providing in-depth understanding of Italian life and culture. Prerequisite: ITAL 3033 or ITAL 3113 or instructor consent.

**ITAL 475V. Special Investigations (Irregular). 1-6 Hour.**

Special investigation of one or more topics related to the Italian language. May be repeated for up to 6 hours of degree credit.

## Japanese (JAPN) Courses

**JAPN 1003. Elementary Japanese I (Fa). 3 Hours.**

Designed for true beginners of Japanese, this course aims to introduce general concepts of the Japanese language: the writing system, basic conversational expressions, vocabulary, and sentence patterns.

**JAPN 1013. Elementary Japanese II (Sp). 3 Hours.**

Elementary courses stress correct pronunciation, aural comprehension, and simple speaking ability, and lead to active mastery of basic grammar and limited reading ability.

**JAPN 1116. Intensive Elementary Japanese (Sp). 6 Hours.**

Equivalent to JAPN 1003 and JAPN 1013. Intended for true beginners of Japanese who have never learned or spoken the language before. Emphasis on all skill areas: correct pronunciation, aural comprehension, speaking ability, reading, and writing. Focuses on developing the students' command of Japanese sentence patterns and vocabulary.

**JAPN 2003. Intermediate Japanese I (Fa). 3 Hours.**

Intermediate courses lead to greater facility in spoken language and to more advanced reading skills.

**JAPN 2013. Intermediate Japanese II (Sp). 3 Hours.**

Continued development of basic reading comprehension and writing skills and intensive development of reading skills. Prerequisite: JAPN 2003 or equivalent.

**JAPN 2013H. Honors Intermediate Japanese II (Sp). 3 Hours.**

Continued development of basic reading comprehension and writing skills and intensive development of reading skills. Prerequisite: JAPN 2003 or equivalent. This course is equivalent to JAPN 2013.

**JAPN 2022. Intermediate Conversation I (Irregular). 2 Hours.**

Supplemental to JAPN 2003. Provides 2 hours of guided conversation per week with the objective of building the listening/speaking skills.

**JAPN 2032. Intermediate Conversation II (Sp, Fa). 2 Hours.**

Supplemental to JAPN 2013. Provides 2 hours of guided conversation per week with the objective of building the listening/speaking skills.

**JAPN 2116. Intensive Intermediate Japanese (Irregular). 6 Hours.**

Equivalent to JAPN 2013. Emphasizes intensive oral/aural drills and reading/speaking exercises and intensive grammar drills. Prerequisite: JAPN 1013 or equivalent.

**JAPN 3003. Advanced Japanese I (Irregular). 3 Hours.**

Introduces more complex forms and structures of the language as well as more Kanji (Chinese Characters) aiming at the improvement of all the skills: speaking, listening, writing and reading. Prerequisite: JAPN 2013.

**JAPN 3003H. Honors Advanced Japanese I (Irregular). 3 Hours.**

Introduces more complex forms and structures of the language as well as more Kanji (Chinese Characters) aiming at the improvement of all the skills: speaking, listening, writing and reading. Prerequisite: JAPN 2013. This course is equivalent to JAPN 3003.

**JAPN 3013. Advanced Japanese II (Irregular). 3 Hours.**

Continuation of JAPN 3003 with more complex forms and structures of the language as well as more Kanji (Chinese Characters) aiming at the improvement of all the skills: speaking, listening, writing and reading. Prerequisite: JAPN 3003.

**JAPN 3013H. Honors Advanced Japanese II (Irregular). 3 Hours.**

Continuation of JAPN 3003 with more complex forms and structures of the language as well as more Kanji (Chinese Characters) aiming at the improvement of all the skills: speaking, listening, writing and reading. Prerequisite: JAPN 3003. This course is equivalent to JAPN 3013.

**JAPN 3033. Advanced Japanese Conversation (Sp). 3 Hours.**

Conversational practice for advanced learners of Japanese. Designed primarily for students who intend to use Japanese in business and other formal settings. Honorific and humble expressions will be emphasized. Prerequisite: JAPN 2013.

**JAPN 3033H. Honors Advanced Japanese Conversation (Fa). 3 Hours.**

Conversational practice for advanced learners of Japanese. Designed primarily for students who intend to use Japanese in business and other formal settings. Honorific and humble expressions will be emphasized. Prerequisite: JAPN 2013. This course is equivalent to JAPN 3033.

**JAPN 3103. Advanced Reading in Japanese (Fa). 3 Hours.**

Designed to build vocabulary and to strengthen students' Japanese reading skills through extensive practice with authentic materials such as readings of on-line newspapers, advertisements, Web pages, and excerpts from Japanese Haiku poetry and literature. Prerequisite: JAPN 3013 or JAPN 3116, or equivalent Japanese proficiency.

**JAPN 3103H. Honors Advanced Reading in Japanese (Fa). 3 Hours.**

Designed to build vocabulary and to strengthen students' Japanese reading skills through extensive practice with authentic materials such as readings of on-line newspapers, advertisements, Web pages, and excerpts from Japanese Haiku poetry and literature. Prerequisite: JAPN 3013 or JAPN 3116, or equivalent Japanese proficiency.

This course is equivalent to JAPN 3103.

**JAPN 3116. Intensive Advanced Japanese (Fa). 6 Hours.**

This course aims to improve students' Japanese proficiency further in all skill areas through intensive practice. Prerequisite: JAPN 2013 or equivalent Japanese proficiency.

**JAPN 3116H. Honors Intensive Advanced Japanese (Fa). 6 Hours.**

This course aims to improve students' Japanese proficiency further in all skill areas through intensive practice. Prerequisite: JAPN 2013 or equivalent Japanese proficiency.

This course is equivalent to JAPN 3116.

**JAPN 3983. Special Studies (Irregular). 3 Hours.**

May be offered in a subject not specifically covered by courses otherwise listed. May be repeated for up to 6 hours of degree credit.

**JAPN 3983H. Honors Special Studies (Irregular). 3 Hours.**

May be offered in a subject not specifically covered by courses otherwise listed. Prerequisite: Honors candidacy. May be repeated for up to 6 hours of degree credit. This course is equivalent to JAPN 3983.

**JAPN 4033. Oral Communication & Composition in Japanese (Fa). 3 Hours.**

Designed to strengthen Japanese language skills in oral communication and writing. Consists of conversational activities, presentations and debates, and composition in settings such as business, school, and everyday life. Prerequisite: JAPN 3013 or JAPN 3116, or equivalent Japanese proficiency.

**JAPN 4033H. Honors Oral Communication & Composition in Japanese (Fa). 3 Hours.**

Designed to strengthen Japanese language skills in oral communication and writing. Consists of conversational activities, presentations and debates, and composition in settings such as business, school, and everyday life. Prerequisite: JAPN 3013 or JAPN 3116, or equivalent Japanese proficiency.

This course is equivalent to JAPN 4033.

**JAPN 4213. Japanese Culture (Irregular). 3 Hours.**

Insight into Japanese civilization and culture with special emphasis on the areas such as social life and environment, education, religion and customs, and visual and performing arts. This course also discusses western influence on Japanese society, culture and language and how traditional and modern values are manifested in Japanese society. Prerequisite: JAPN 2013. May be repeated for up to 6 hours of degree credit.

**JAPN 4313. Language and Society of Japan (Fa). 3 Hours.**

The primary objective of this course is to investigate the way the Japanese language reflects the beliefs and custom of the Japanese people as a social group. For comparison purposes, this course makes reference to studies in American language and culture. Proficiency in Japanese not required. Prerequisite: Junior standing.

**JAPN 4313H. Honors Language and Society of Japan (Fa). 3 Hours.**

The primary objective of this course is to investigate the way the Japanese language reflects the beliefs and custom of the Japanese people as a social group. For comparison purposes, this course makes reference to studies in American language and culture. Proficiency in Japanese not required. Prerequisite: Junior standing. This course is equivalent to JAPN 4313.

**JAPN 4333. Professional Japanese I: Business Writing (Sp). 3 Hours.**

This course aims to familiarize the students with formats, vocabulary, and expressions in Japanese business correspondence. Emphasizes career-ready Japanese language proficiency. Prerequisite: JAPN 3116 or equivalent Japanese proficiency.

**JAPN 4333H. Honors Business Writing in Japanese (Sp). 3 Hours.**

This course aims to familiarize the students with formats, vocabulary, and situationally specific expressions in Japanese business correspondence. Prerequisite: JAPN 2013 or equivalent Japanese proficiency. This course is equivalent to JAPN 4333.

**JAPN 4343. Professional Japanese II: Translation (Fa). 3 Hours.**

Continuation of Professional Japanese I. Emphasizes translation, career-ready Japanese language proficiency, and further advancement of Japanese language proficiency in all skill areas. Completion of a professional translation project based on contemporary material is required. Prerequisite: JAPN 4333 or equivalent.

**JAPN 4343H. Honors Professional Japanese II: Translation (Fa). 3 Hours.**

Continuation of Professional Japanese I. Emphasizes translation, career-ready Japanese language proficiency, and further advancement of Japanese language proficiency in all skill areas. Completion of a professional translation project based on contemporary material is required. Prerequisite: JAPN 4333 or equivalent. This course is equivalent to JAPN 4343.

## Jewish Studies (JWST) Courses

**JWST 2003. Introduction to Judaism (Odd years, Fa). 3 Hours.**

An introduction to the practices, teachings, and scriptures of Judaism, focusing on the post-Biblical period up to the present.

**JWST 3103. Introduction to Jewish Languages (Even years, Fa). 3 Hours.**

An introduction to the alphabet, grammar, syntax, and basic vocabulary of Hebrew, Jewish Aramaic and Yiddish.

**JWST 4003. Modern Jewish Thought (Irregular). 3 Hours.**

A survey of the main trends in Jewish thought from the seventeenth through the nineteenth century.

This course is cross-listed with PHIL 4103.

**JWST 4013. Contemporary Jewish Thought (Odd years, Sp). 3 Hours.**

A survey of trends in Jewish thought in the twentieth and twenty-first centuries, focusing on the ways in which Jewish thinkers have responded to the events affecting Jews and the conditions of Jewish life in from approximately 1900 to the present.

This course is cross-listed with PHIL 4313.

**JWST 470V. Special Topics in Jewish Studies (Irregular). 1-3 Hour.**

Irregular course offerings that focus on a specialized area of Jewish Studies not covered in depth in regular JWST or affiliated courses. May be repeated for up to 6 hours of degree credit.



**JWST 475V. Independent Investigations in Jewish Studies (Irregular). 1-3 Hour.**

This course can be offered to allow a student to pursue reading and research on a topic of interest not covered in regular JWST courses. Prerequisite: Instructor consent. May be repeated for up to 6 hours of degree credit.

## Journalism (JOUR) Courses

**JOUR 1003. Journalistic Writing Skills (Sp, Fa). 3 Hours.**

Provides a functional approach to improving language and writing skills specific to journalistic writing. Covers introductory journalistic writing and correct grammar usage, the logic governing syntax and punctuation use, analysis of grammar and syntax, sentence structure, word selection to convey proper meaning, memory aids, and other language topics relevant to journalistic writing.

**JOUR 1023. Media and Society (Sp, Fa). 3 Hours.**

A survey of mass media (newspaper, radio, TV, magazine, advertising, public relations, photography, etc.) which stresses their importance in today's society and introduces the student to the various areas in journalism. Recommended for students considering journalism as a major. Prerequisite: Journalism major or department consent.

**JOUR 1033. Fundamentals of Journalism (Sp, Su, Fa). 3 Hours.**

Introduces students to the skills of observation, critical thinking and concise writing required in all aspects of journalism, as well as to the technology needed in upper-level courses. Practice using references for grammar and journalistic style. A prerequisite to JOUR 2013, JOUR 2032, JOUR 2063 and JOUR 4143. Corequisite: Lab component. Prerequisite: Journalism major or department consent.

**JOUR 2003. Writing for Today's Media (Sp, Fa). 3 Hours.**

Writing preparation for newspaper, broadcast, online, public relations and social media. Emphasizes clear writing, prioritizing and synthesizing information, performance on deadline pressure, and writing style differences among media. Focuses on reporting, research, interviewing, grammar, Associated Press style, and concise writing. Explores news bias, fairness, multi-platform journalism and ethics. Prerequisite: JOUR 1023 and JOUR 1033 with a grade of C or better.

**JOUR 2013. News Reporting I (Sp, Fa). 3 Hours.**

Intensive training in the methods of gathering and writing news. Lecture 2 hours, laboratory 2 hours per week. Prerequisite: JOUR 1023 and JOUR 1033, each with a grade of C or better.

**JOUR 2013H. Honors News Reporting I (Sp, Fa). 3 Hours.**

Intensive training in the methods of gathering and writing news. Lecture 2 hours, laboratory 2 hours per week. Prerequisite: Honors standing, JOUR 1023 and JOUR 1033, each with a grade of C or better. This course is equivalent to JOUR 2013.

**JOUR 2031L. Broadcast News Reporting I Laboratory (Sp, Fa). 1 Hour.**

Provides experience in basic broadcast news reporting techniques. Laboratory 3 hours per week. Corequisite: JOUR 2032. Prerequisite: JOUR 1033 with a grade of C or better.

**JOUR 2032. Broadcast News Reporting I (Sp, Fa). 2 Hours.**

Intensive training in the methods of gathering and writing broadcast news. Lecture 2 hours per week. Corequisite: JOUR 2031L. Prerequisite: Sophomore standing and JOUR 1033 with a grade of C or better.

**JOUR 2053. Multimedia Journalism (Sp, Fa). 3 Hours.**

Provides students with the skills of visual literacy, photo editing, audio processing, video editing and web publishing. Good writing will be emphasized. The course examines basic aesthetic principles in visual composition and techniques applicable to audio, video and web production. Prerequisite: JOUR 1023 and JOUR 1033, each with a grade of C or better.

**JOUR 2063. Media Technology (Su, Fa). 3 Hours.**

Introduction to computer skills required in journalism; focus is training in the major computer software used in the profession. Prerequisite: JOUR 1023 and JOUR 1033, each with a grade of C or better.

**JOUR 2331L. Photojournalism I Laboratory (Fa). 1 Hour.**

Photojournalism 1 Lab involves the transfer of images from a digital camera to a computer, and involves the use of image editing and enhancing software as well as layout and design software. Corequisite: JOUR 2332.

**JOUR 2332. Photo Journalism I (Fa). 2 Hours.**

Beginning course in the fundamentals of photography, including digital photography, composition, file transfer and management, image enhancement, and layout and design. Corequisite: JOUR 2331L.

**JOUR 2453. Introduction to Sports Television Production I (Fa). 3 Hours.**

Introduction to the specialized field of sports television production. Focuses on multi-camera, single-camera and studio production. Studio lab and field work outside of regularly scheduled class time required.

**JOUR 3013. Editing (Sp, Fa). 3 Hours.**

Theories and practices in newspaper editing, copyreading, headline writing, page layout and the gathering and publication of written and pictorial information. Prerequisite: JOUR 1023 and JOUR 2013, each with a grade of C or better.

**JOUR 3023. News Reporting II (Sp, Fa). 3 Hours.**

Continuation of JOUR 2013. Lecture 2 hours, laboratory 2 hours per week. Corequisite: Lab component. Prerequisite: JOUR 2013 with a grade of C or better.

**JOUR 3071L. Broadcast News Reporting II Laboratory (Sp, Fa). 1 Hour.**

Continuation of JOUR 2031L. Including advanced skills in broadcast news techniques. Corequisite: JOUR 3072. Prerequisite: JOUR 2032 and JOUR 2031L, each with a grade of C or better.

**JOUR 3072. Broadcast News Reporting II (Sp, Fa). 2 Hours.**

Continuation of JOUR 2032. Including advanced methods of gathering and writing broadcast news. Corequisite: JOUR 3071L. Prerequisite: JOUR 2032 and JOUR 2031L, each with a grade of C or better.

**JOUR 3083. Photojournalism II (Sp). 3 Hours.**

Study of news and feature photography. Includes planning and shooting photographs for newspapers and magazines, and instills in the student photojournalistic techniques, and ethical considerations of photographing for publication. Includes producing multimedia presentations and working with audio as well as still images. Lecture 3 hours, laboratory 2 hours per week. Corequisite: Lab component. Prerequisite: JOUR 2332 and JOUR 2331L, each with a grade of C or better.

**JOUR 3093. Presentation Design for Journalism, Advertising and Public Relations (Sp). 3 Hours.**

Covers presenting stories, campaigns and other ideas via traditional and new media. Covers web and paper presentations using leading design software.

**JOUR 3123. Feature Writing (Sp, Fa). 3 Hours.**

Study of non-fiction newspaper and magazine feature articles with emphasis on locating subjects, and on writing techniques and practice in article writing. Prerequisite: JOUR 2013 with a grade of C or better.

**JOUR 3133. Editorial Writing (Irregular). 3 Hours.**

Study of the opinion function of the news media. Includes editorial writing, the newspaper editorial/opinion columns, letters from readers, and broadcast commentary. Prerequisite: JOUR 2013 or JOUR 2032 with a grade of C or better, and junior standing.

**JOUR 3163. Sports Journalism (Fa). 3 Hours.**

Emphasis on techniques and principles of coverage of sports and sports-related subjects on and off the field, and on the relationship between sports and the mass media. Prerequisite: JOUR 1033 with a grade of C or better.

**JOUR 3263. African Americans in Film (Irregular). 3 Hours.**

A survey of the history of images of African Americans in film, especially as these images are examined in the context of stereotypical renditions and/or realistic representations of African American experiences. Issues of African American history, culture, and socio-political context will be addressed in the analyses of these films. Prerequisite: ENGL 1023 and junior or senior standing.

This course is cross-listed with AAST 3263, ENGL 3263, COMM 3263.

**JOUR 3273. African Americans in Documentary Film (Sp). 3 Hours.**

Exploration of the African-American image and experience in the context of time, historical record and varying production viewpoints from diverse documentarians. African-American history, culture and socio-political context are addressed in the analyses of these documentary films from the perspectives of mainstream media, independent filmmakers and minority documentarians. Prerequisite: Junior or senior standing.

This course is cross-listed with AAST 3273, COMM 3273.

**JOUR 3453. Sports Television Production II (Irregular). 3 Hours.**

Advanced production techniques in the specialized field of sports television production. Focuses on multi-camera, single-camera and studio production. Studio lab and field work outside of regularly scheduled class time required. Prerequisite: JOUR 2453 with a grade of C or better, or instructor consent.

**JOUR 3633. Media Law (Sp, Fa). 3 Hours.**

Constitutional guarantees, statutory laws and court cases applicable to mass communications. Prerequisite: Junior standing.

**JOUR 3723. Advertising Principles (Sp, Fa). 3 Hours.**

Introductory course to the broad field of advertising. The course includes a study of the role of advertising in modern society with emphasis being given to the extent and manner of use of advertising in newspapers, magazines, radio, television, and other media. Prerequisite: Minimum of 60 hours completed, 2.5 overall grade point average, and completion of JOUR 1033 with a grade of C or better; no in-progress hours or coursework accepted.

**JOUR 3733. Covering the Courts (Sp). 3 Hours.**

Explores the mechanics of covering trials and other aspects of legal affairs reporting. Prerequisite: JOUR 3633 with a grade of C or better.

**JOUR 3743. Public Relations Principles (Sp, Fa). 3 Hours.**

Study of theory, methods, and ethics of public relations in modern society, business, and communications. Influencing opinion through acceptable performance and 2-way communication. Recommended for students in many fields. Prerequisite: Minimum of 60 hours completed, 2.5 overall grade point average, and completion of JOUR 1033 with a grade of C or better; no in-progress hours or coursework accepted.

**JOUR 3923H. Honors Colloquium (Sp, Fa). 3 Hours.**

Covers a special topic or issue, offered as a part of the honors program. Prerequisite: Honors candidacy (not restricted to candidacy in journalism). May be repeated for degree credit.

**JOUR 401V. Advanced Journalistic Practices (Sp, Fa). 1-4 Hour.**

Study of advanced journalistic practices and methods, individual or group projects. Prerequisite: Junior standing and 10 hours of journalism and a 2.5 cumulative grade average.

**JOUR 402V. Internship in Journalism (Sp, Su, Fa). 1-3 Hour.**

Credit for practical experience gained through a journalistic internship. Report required on significant aspect of internship experience. Prerequisite: JOUR major and junior standing and 10 hours JOUR and 2.50 cumulative grade point average. May be repeated for up to 3 hours of degree credit.

**JOUR 4033. Advanced Radio News Reporting (Sp). 3 Hours.**

Intensive training in the production of in-depth, public radio style news stories. Prerequisite: JOUR 2032 and JOUR 2031L, each with a grade of C or better.

**JOUR 4043. Government and the Media (Fa). 3 Hours.**

Focuses on the links between mass media and government and the increasingly significant role of media in politics and government. Examines the power, responsibility, and performance of the press and public officials/government agencies in their relationship with each other. Prerequisite: Junior standing.

**JOUR 405V. Specialized Journalism Seminar (Irregular). 1-3 Hour.**

Primary purpose of course is to enlarge the journalistic skills of students interested in advanced forms of mass communication. Students undertake projects related to particular aspects or problems of journalism. Content varies. May be repeated for up to 12 hours of degree credit.

**JOUR 4063. Computer-Assisted Publishing (Irregular). 3 Hours.**

In-depth, hands-on exploration of computer hardware and software in the design and production of media messages. Examination of developing media technologies and the computer's influence on design and conceptualization.

**JOUR 4073. Social Media and Journalism (Fa). 3 Hours.**

Social Media and Journalism teaches conceptual knowledge and skills to develop news judgment and use changing technological tools to disseminate news quickly and to different audiences. The value of interacting with sources and the audience is stressed as are ethical, legal and accuracy issues. Prerequisite: JOUR 2013 or JOUR 2032 with a grade of C or better.

**JOUR 4143. Public Relations Writing (Sp, Fa). 3 Hours.**

Instructional and writing practice to develop the professional-level writing skills required of public relations practitioners. Emphasizes different approaches required for different audiences and media. Prerequisite: Minimum of 90 hours completed, 2.5 overall grade point average, Journalism major in the AD/PR sequence, completion of JOUR 1033 with a grade of C or better, and completion of JOUR 3723 and JOUR 3743, each with a grade of B or better; no in-progress hours or coursework accepted.

**JOUR 4333. Ethics in Journalism (Sp, Fa). 3 Hours.**

Critical examination of specific ethical problems confronting professionals in all areas of mass communications. Reading and writing assignments are aimed at familiarizing students with the nature of the mass media and their social responsibilities. Prerequisite: Junior standing.

**JOUR 4413. Broadcast Advertising and Sales (Fa). 3 Hours.**

The creation of advertising campaigns for the broadcast media and techniques involved in the presentation of these campaigns to prospective media buyers. Emphasis is also placed on the gathering and use of rating systems for broadcasting. Prerequisite: JOUR 3723 with a grade of B or better.

**JOUR 4423. Creative Strategy and Execution (Sp, Fa). 3 Hours.**

The creation of advertising copy and layout for the mass media with emphasis on strategy, the written message, and the physical appearance for the advertisement. Includes laboratory component. Prerequisite: Min. 90 hrs. completed, 2.5 overall GPA, JOUR major with AD/PR sequence, completion of JOUR 1033 with a grade of C or better, and completion of JOUR 3723 and JOUR 3743, with a grade of B or better; no in-progress hours or coursework accepted.

**JOUR 443V. Event Promotion and Execution (Sp). 1-3 Hour.**

Practicum for students to plan, design, promote and execute several Journalism Days events, to include the Roy Reed Lecture, a scholarship reception, a job fair, Senior Salute and a fundraiser. Prerequisite: Junior standing.

**JOUR 4453. Media Planning & Strategy (Sp, Fa). 3 Hours.**

Includes the study of media characteristics, market research, media strategies, media analysis, media-market measurements and the development of media plans. Emphasis is placed on the analysis of major mass media strategies, tactics, and planning. Prerequisite: Min. 90 hrs. completed, 2.5 overall GPA, JOUR major with AD/PR sequence, completion of JOUR 1033 with a grade of C or better, and completion of JOUR 3723 and JOUR 3743, with a grade of B or better; no in-progress hours or coursework accepted.

**JOUR 4463. Campaigns (Sp, Su, Fa). 3 Hours.**

Applying advertising principles and techniques to preparation of a complete campaign; determining agency responsibilities, marketing objectives and research, media mix, and creative strategy. Emphasis also given to campaign presentation delivery, utilizing audio and visual techniques. Prerequisite: JOUR 3723 and JOUR 3743, each with a grade of B or better, and 2.5 overall GPA.

**JOUR 4473. Account Planning (Sp, Fa). 3 Hours.**

An introduction to applied advertising research and account planning. Integrate consumers' perspectives into creative strategy to developing brand stories for clients. Write creative briefs, positioning statements and prepare copy-testing research instruments to evaluate messages. Utilize consumer research for creating messages for diverse cultures. Prerequisite: Minimum 90 hours completed, no in-progress hours or coursework accepted, 2.5 overall GPA, JOUR 1033 with a grade of C or better, and JOUR 3723 and JOUR 3743, with a grade of B or better.

**JOUR 4483. Issues in Advertising and Public Relations (Fa). 3 Hours.**

Seminar course involving the critical examination of the major cultural, social, political, economic, ethical and persuasion theories and/or issues relevant to advertising and public relations affecting individuals, organizations and societies. Prerequisite: Completion of both JOUR 3723 and JOUR 3743 with a grade of B or better, and 2.5 overall GPA.

**JOUR 4503. Magazine Writing (Sp). 3 Hours.**

This intensive writing and reporting course is for students with proven feature-writing skills and an interest in the human-interest stories found in such leading magazines as *The New Yorker*, *Esquire*, *Harper's*, *the Atlantic*, and others. Students will compose magazine-length nonfiction stories on timely subjects under deadline. Stories are submitted for contests and publication, when possible. Prerequisite: JOUR 2013 with a grade of C or better.

**JOUR 4553. Magazine Editing and Production I (Sp). 3 Hours.**

Instruction with lab work in editing and producing various types of magazines. Course includes magazine design, selecting and editing stories and photographs, laying out the story and photo pages, and other mechanical processes. Lecture 2 hours, laboratory 2 hours per week.

**JOUR 4863. Television News Reporting I (Sp, Fa). 3 Hours.**

Continuation of JOUR 3072 and JOUR 3071L. Includes the specialized knowledge and skills needed in field reporting, anchoring, writing, and producing news for commercial television. Lab component arranged. Corequisite: Lab component. Prerequisite: JOUR 3072 and JOUR 3071L, each with a grade of C or better.

**JOUR 4873. Television News Reporting II (Sp, Fa). 3 Hours.**

Continuation of JOUR 4863. Laboratory component arranged. Prerequisite: JOUR 4863 with a grade of C or better.

**JOUR 4883. Advanced Television News Production (Irregular). 3 Hours.**

Continuation of JOUR 4873. Students prepare and present television newscasts for air. Laboratory component arranged. Corequisite: Lab component. Prerequisite: JOUR 4873 with a grade of C or better.

**JOUR 4893. Television News Producing (Sp, Fa). 3 Hours.**

Intensive training in methods of producing a live television news broadcast, including news gathering, writing broadcast copy and production strategies. Lab 6 hours. Corequisite: Lab component. Prerequisite: JOUR 3072 and JOUR 3071L, each with a grade of C or better.

**JOUR 4903. Community Journalism (Sp). 3 Hours.**

This three-hour course will blend student reporting and editing skills with instruction on how regional newspapers select and present news to a local audience. This course will instruct students in deciding news stories for regional readers, how those stories can best be written and displayed. The semester goal is to publish a paper. Prerequisite: Junior standing.

**JOUR 4923. History of the Black Press (Even years, Sp). 3 Hours.**

Covers the historic context of contributions and innovations to U.S. newspapers by African Americans. Also investigates the role of the black press from its beginnings in 1827 through the civil rights movement. Prerequisite: Junior standing. This course is cross-listed with AAST 4923.

**JOUR 4943H. Honors Research Methods in Journalism (Sp). 3 Hours.**

Emphasis on the major types of qualitative and quantitative research, electronic data base searching, and traditional library research. Prerequisite: Journalism honors major.

**JOUR 4981. Journalism Writing Requirement (Sp, Su, Fa). 1 Hour.**

Directed study in conceptualizing, researching, and writing a major paper to meet the college writing requirement; includes presentations and discussions on current issues in journalism news and strategic communication. Students must make a C in order to satisfy the college writing requirement. Prerequisite: 90 hours.

**JOUR 498VH. Honors Journalism Writing Requirement (Sp, Su, Fa). 1-6 Hour.**

May be repeated for up to 6 hours of degree credit. This course is equivalent to JOUR 4981.

**JOUR 5003. Advanced Reporting (Irregular). 3 Hours.**

Stresses public affairs coverage, interpretive, investigative, and analytic journalism, involving research, work with documents, public records, and budgets and specialized reporting.

**JOUR 5023. Journalism Theory (Fa). 3 Hours.**

Examination of the major journalism and mass media theories and conceptual perspectives regarding journalism, news, mass media, advertising and public relations relevant to industry and academic researchers and professionals.

**JOUR 5033. Critical and Opinion Writing and Commentary (Irregular). 3 Hours.**

Experience in writing and analyzing columns, editorials, criticism, and other forms of opinion and commentary in the media and in examining the media's role as a forum for opinion and commentary and its impact and influence.

**JOUR 5043. Research Methods in Journalism (Sp). 3 Hours.**

Research methods of utility in journalism. Emphasis on survey research, electronic data base searching, and traditional library research. Prerequisite: Graduate standing or honors program standing.

**JOUR 5063. Issues in Advertising and Public Relations (Fa). 3 Hours.**

Seminar course involving the critical examination of the major cultural, social, political, economic, ethical, and persuasion theories and/or issues relevant to advertising and public relations affecting individuals, organizations, societies. Prerequisite: Graduate standing.

**JOUR 5073. Propaganda and Public Opinion (Irregular). 3 Hours.**

Examines and analyzes the means of influencing and measuring public opinion, with an emphasis on survey research and polling.

**JOUR 5133. Ethics in Journalism (Fa). 3 Hours.**

A seminar examining the professional ethical principles and ethical performance in the journalism field. The ethical performance of the mass media dedicated to news, public relations and advertising is evaluated based on ethical theories and industry standards. Prerequisite: Graduate standing.

**JOUR 5183. International Mass Communications (Irregular). 3 Hours.**

Examination of national media systems, issues in international communications, the role of the media in coverage of international affairs, and the impact of new technologies on mass communications.

**JOUR 5193. Professional Journalism Seminar (Irregular). 3 Hours.**

Examination of complex problems encountered by professional journalists with focus on research and analysis of the role of journalism in major social, economic, and political developments. May be repeated for up to 6 hours of degree credit.

**JOUR 5233. Media and Public Policy (Irregular). 3 Hours.**

Focuses on the interaction between media, politics, government, and public policy, particularly on the impact and influence of the media on the public policy agenda.

**JOUR 5313. Literature of Journalism (Irregular). 3 Hours.**

A study of superior works of non-fiction journalism, past and present. Includes authors from Daniel Defoe to John McPhee.

**JOUR 5323. Documentary Production I (Fa). 3 Hours.**

In-depth study of documentary film as non-fiction, long form journalism. Covers subject, funding, research and development, pre-production planning, field production, talent, music, post production, promotion, broadcast and distribution. Required trip to Hot Springs Documentary Film Festival.

**JOUR 5333. Documentary Production II (Sp). 3 Hours.**

A continuation of JOUR 5323, Documentary Production I. Students photograph, write, and edit a documentary begun in the fall semester. Prerequisite: JOUR 5323.

**JOUR 5473. Account Planning (Sp, Fa). 3 Hours.**

An introduction to applied advertising research and account planning. Integrate consumers' perspectives into creative strategy to developing brand stories for clients. Write creative briefs, positioning statements and prepare copy-testing research instruments to evaluate messages. Utilize consumer research for creating messages for diverse cultures. Prerequisite: Graduate standing.

**JOUR 5923. History of the Black Press (Even years, Sp). 3 Hours.**

Covers the historic context of contributions and innovations to U.S. newspapers by African Americans. Also investigates the role of the black press from its beginnings in 1827 through the civil rights movement.

**JOUR 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Required of all M.A. journalism students. May be repeated for degree credit.

## Kinesiology (KINS)

### Courses

**KINS 3163. Exercise Physiology: Theory and Application (Fa). 3 Hours.**

Examination of the changes during childhood and adolescence of physiological responses to exercise. The exploration includes the study of the maturation of the body's functional capacities as it relates to exercise. Designed for Physical Education Teacher Education majors. Prerequisite: BIOL 2443 and BIOL 2441L and K-12 or P-12 physical education major.

**KINS 3163H. Honors Exercise Physiology: Theory and Application (Sp, Fa). 3 Hours.**

Examination of the changes during childhood and adolescence of physiological responses to exercise. The exploration includes the study of the maturation of the body's functional capacities as it relates to exercise. Designed for Physical Education Teacher Education majors. Prerequisite: BIOL 2443 and BIOL 2441L and P-12 or K-12 physical education major.

This course is equivalent to KINS 3163.

**KINS 3223. Motor Development (Sp, Su, Fa). 3 Hours.**

An overview of contemporary motor development and movement theory, developmental hierarchies, and physiological aspects of development throughout the lifespan.

**KINS 3901H. Kinesiology Honors Thesis Tutorial (Sp, Su, Fa). 1 Hour.**

Designed to provide the foundation for the Honors Thesis/Project. Students and faculty tutors work "one-on-one" exploring a specific topic which has been agreed upon by the student and the professor. Prerequisite: Honors candidacy and instructor consent.

**KINS 405V. Independent Study (Sp, Su, Fa). 1-3 Hour.**

Provides students an opportunity to pursue special study of research problems. May be repeated for up to 12 hours of degree credit.

**KINS 405VH. Honors Independent Study (Sp, Su, Fa). 1-3 Hour.**

Provides students an opportunity to pursue special study of research problems. Prerequisite: Honors candidacy. May be repeated for up to 12 hours of degree credit.

This course is equivalent to KINS 405V.

**KINS 498VH. Kinesiology Honors Thesis/Project (Sp, Su, Fa). 1-3 Hour.**

Designed to provide facilitation of the Honors Thesis/Project. Students and faculty work "one-on-one" to complete the honors thesis/project. Prerequisite: Honors candidacy and KINS 3901H. May be repeated for up to 3 hours of degree credit.

**KINS 5423. Assessment and Prescriptive Programming in Adapted Movement Science (Odd years, Sp). 3 Hours.**

Instruction in the assessment, prescription, and use of instruction methods, materials, and equipment relevant to working with people with disabilities.

**KINS 5493. Practicum in Adapted Physical Education (Irregular). 3 Hours.**

Deals with the application of skills, knowledge and concepts necessary for planning, organizing and conducting adapted physical education programs through supervised field experiences.

**KINS 5643. Motor Learning (Sp). 3 Hours.**

Concepts of motor learning and control are presented. Attention is given to an analysis of the literature in movement control, motor behavior, and motor learning.

**KINS 574V. Internship (Sp). 1-6 Hour.**

May be repeated for up to 6 hours of degree credit.

**KINS 5753. Sport Psychology (Su). 3 Hours.**

Investigation of historical and contemporary research in sport psychology.

**KINS 589V. Independent Research (Sp, Su, Fa). 1-3 Hour.**

Development, implementation, and completion of basic or applied research project. Prerequisite: M.S. degree program in exercise and movement sciences and HPR 5353 and ESRM 5393.

**KINS 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Master's Thesis. May be repeated for degree credit.

**KINS 605V. Independent Study (Sp, Su, Fa). 1-3 Hour.**

Provides students with an opportunity to pursue special study of educational problems. May be repeated for up to 3 hours of degree credit.

**KINS 674V. Internship (Irregular). 1-3 Hour.**

May be repeated for up to 3 hours of degree credit.

## Landscape Architecture (LARC)

### Courses

**LARC 1003. Basic Course in the Arts: The American Landscape (Sp, Fa). 3 Hours.**

Mankind's changing attitudes toward urban and rural outdoor spaces and their aesthetic and cultural values. The origins of the environmental/conservation movement and the development of an American land ethic. Appreciation of the relationship of the natural and historic landscape to the arts and the aesthetic importance of open space.

**LARC 1003H. Honors Basic Course in the Arts: The American Landscape (Sp, Fa). 3 Hours.**

Mankind's changing attitudes toward urban and rural outdoor spaces and their aesthetic and cultural values. The origins of the environmental/conservation movement and the development of an American land ethic. Appreciation of the relationship of the natural and historic landscape to the arts and the aesthetic importance of open space.

**LARC 1315. Fundamental Design Skills (Fa). 5 Hours.**

Fundamental design skills; development of visual and verbal communication skills including observation skills, design technologies, analysis and representation in both 2-dimensions and 3-dimensions through analog and digital tools; creative and critical thinking skills.

**LARC 1325. Fundamental Design Methodology (Sp, Su). 5 Hours.**

Fundamental design skills; use of precedents for understanding principles of design and natural and formal ordering systems; design development using both iterative and alternative methods of exploration in 2-dimensions and 3-dimensions using analog and digital tools; continued development of visual and verbal communication skills. Prerequisite: LARC 1315.

**LARC 2113. Design Communications I (Fa). 3 Hours.**

Introduces basic graphic techniques fundamental to the communication of landscape design and landscape architecture. Emphasis on effective and efficient communication using free-hand and digital tools and techniques most frequently utilized in landscape architecture. Limitations and advantages are identified, and shared principles in both hand and computer graphics are emphasized.

**LARC 2123. Design Communications II (Sp). 3 Hours.**

Builds upon LARC 2113 by introducing advanced graphic techniques increasingly utilized in the communication of landscape design and planning, and in professional practice. Focus is on software required for sophisticated renderings and visualizations, and to manage and interpret landscape data to the regional level.

**LARC 2336. Landscape Architecture Design III (Fa). 6 Hours.**

Introduction to design process(es) which responds to site and context. Reinforcement of design principles and organization systems applied to small scale design projects. Studio and lecture. Prerequisite: LARC 1326.

**LARC 2346. Landscape Architecture Design IV (Sp). 6 Hours.**

(Formerly LARC 3345) Expansion of abilities to analyze existing conditions of site and develop methods for interpreting and synthesizing information and perceptions into spatial design proposals. Emphasis on design form and the use of meaning and landscape narrative applied to increased scale projects within a larger or more complex context. Studio and lecture. Prerequisite: LARC 2336 and LARC 3413.

**LARC 2346H. Honors Landscape Architecture Design IV (Sp). 6 Hours.**

(Formerly LARC 3345) Expansion of abilities to analyze existing conditions of site and develop methods for interpreting and synthesizing information and perceptions into spatial design proposals. Emphasis on design form and the use of meaning and landscape narrative applied to increased scale projects within a larger or more complex context. Studio and lecture. Prerequisite: LARC 2336 and LARC 3413 and Honors candidacy.

This course is equivalent to LARC 2346.

**LARC 2714. Landscape Architecture Construction I (Sp). 4 Hours.**

(Grading) Introduction to landscape architectural construction with an emphasis on grading, earthwork computations, and technical drawing skills. Introduction to roadway alignment, the land survey system, and construction documents. Lecture and laboratory.

**LARC 302V. Special Studies (Irregular). 1-6 Hour.**

Individual or group study and practicum and travel involving landscape design, history, and environmental analysis. May be repeated for up to 6 hours of degree credit.

**LARC 302VH. Honors Special Studies (Irregular). 1-6 Hour.**

Individual or group study and practicum and travel involving landscape design, history and environmental analysis. Prerequisite: Honors candidacy. This course is equivalent to LARC 302V.

**LARC 303V. Special Projects (Irregular). 1-6 Hour.**

Design implementation, study, practicum, and preparation of working drawings. May be repeated for degree credit.

**LARC 303VH. Honors Special Projects (Irregular). 1-6 Hour.**

Design implementation, study, practicum, and preparation of working drawings. Prerequisite: Honors candidacy.

This course is equivalent to LARC 303V.

**LARC 3356. Landscape Architecture Design V (Fa). 6 Hours.**

Investigation of social behavior as applied to program and design that serves human needs. Projects reflect increased scope, scale, and resolution with a detailed design component. Studio and lecture. Prerequisite: LARC 2346 and LARC 2714; and acceptance into the professional program.

**LARC 3356H. Honors Landscape Architecture Design V (Fa). 6 Hours.**

Investigation of social behavior as applied to program and design that serves human needs. Projects reflect increased scope, scale, and resolution with a detailed design component. Studio and lecture. Prerequisite: LARC 2346 and LARC 2714; honors candidacy and acceptance into the professional program.

This course is equivalent to LARC 3356.

**LARC 3366. Landscape Architecture Design VI (Sp). 6 Hours.**

Investigation of ecological determinism, historic and contemporary planning, and sustainable design as distinct approaches to landscape architecture. Studio and lecture. Prerequisite: LARC 3356.

**LARC 3366H. Honors Landscape Architecture Design VI (Sp). 6 Hours.**

Investigation of ecological determinism, historic and contemporary planning, and sustainable design as distinct approaches to landscape architecture. Studio and lecture. Prerequisite: LARC 3356 and Honors candidacy.

This course is equivalent to LARC 3366.

**LARC 3413. History of Landscape Architecture I (Fa). 3 Hours.**

Analysis of the interaction between existing landscapes and human cultural development as reflected in the meaning and organization of landscape designs at garden and community scales from the Neolithic period to the mid-nineteenth century.

**LARC 3413H. Honors History of Landscape Architecture I (Fa). 3 Hours.**

Analysis of the interaction between existing landscapes and human cultural development as reflected in the meaning and organization of landscape designs at garden and community scales from the Neolithic period to the mid-nineteenth century. Prerequisite: Honors candidacy.

This course is equivalent to LARC 3413.

**LARC 3724. Landscape Construction II (Fa). 4 Hours.**

Introduction to landscape architectural materials and methods of construction and assembly. Emphasis on material properties and how those properties affect the materials use in the landscape and interactions with other materials. Introduction to dimensioning and layout systems and parking requirements with increased complexity of construction documents. Lecture and laboratory.

**LARC 3724H. Honors Landscape Construction II (Fa). 4 Hours.**

Introduction to landscape architectural materials and methods of construction and assembly. Emphasis on material properties and how those properties affect the materials use in the landscape and interactions with other materials. Introduction to dimensioning and layout systems and parking requirements with increased complexity of construction documents. Lecture and laboratory. Prerequisite: Honors candidacy.

This course is equivalent to LARC 3724.

**LARC 3734. Landscape Architecture Construction III (Sp). 4 Hours.**

(Structures) Introduction into the design and fabrication methods of structures in the landscape. Emphasis on statics in calculating sizes and selection of materials for free-standing and retaining walls, and wooden structures. Advanced technical drawing component and computer integration of drawing production. Lecture and laboratory. Prerequisite: LARC 3724.

**LARC 3734H. Honors Landscape Architecture Construction III (Sp). 4 Hours.**  
(Structures) Introduction into the design and fabrication methods of structures in the landscape. Emphasis on statics in calculating sizes and selection of materials for free-standing and retaining walls, and wooden structures. Advanced technical drawing component and computer integration of drawing production. Lecture and laboratory. Prerequisite: LARC 3724 and Honors candidacy. This course is equivalent to LARC 3734.

**LARC 3914. Planting Design I (Fa). 4 Hours.**  
Introduction to small scale projects involving use of plant materials in relation to other landscape elements, formulation of a vocabulary of plant materials and preparation of integrated planting plans and applicable specifications. Includes laboratory. Prerequisite: HORT 3103.

**LARC 3914H. Honors Planting Design I (Fa). 4 Hours.**  
Introduction to small scale projects involving use of plant materials in relation to other landscape elements, formulation of a vocabulary of plant materials and preparation of integrated planting plans and applicable specifications. Includes laboratory. Prerequisite: HORT 3103 and Honors candidacy. This course is equivalent to LARC 3914.

**LARC 3933. Cultural Landscape Studies (Su). 3 Hours.**  
The examination of landscape forms, and their historic and evolutionary development. Includes study of cultural, political, and site context influences. Required field trip component of study abroad. Prerequisite: LARC 3413.

**LARC 402V. Special Studies (Irregular). 1-6 Hour.**  
Individual or group study and practicum involving landscape design, planning and management, history and environmental analysis. May be repeated for up to 6 hours of degree credit.

**LARC 402VH. Honors Special Studies (Irregular). 1-6 Hour.**  
Individual or group study and practicum involving landscape design, planning and management, history and environmental analysis. May be repeated for up to 6 hours of degree credit. This course is equivalent to LARC 402V.

**LARC 4033. Theory (Fa). 3 Hours.**  
Introduction to seminal theories in landscape architecture, environmental design and planning. Readings and case studies will be utilized to explore interaction and connection across a range of disciplinary theoretical intersections. Prerequisite: LARC 3413 and LARC 4413 or instructor consent.

**LARC 4033H. Honors Theory (Fa). 3 Hours.**  
Introduction to seminal theories in landscape architecture, environmental design and planning. Readings and case studies will be utilized to explore interaction and connection across a range of disciplinary theoretical intersections. Prerequisite: LARC 3413 and LARC 4413 or instructor consent. This course is equivalent to LARC 4033.

**LARC 4123. Urban Form Studies (Su). 3 Hours.**  
The examination of urban, village, and suburban form and its influencing forces. Includes study of cultural forces, technological developments, and physical shape, scale, and materials that define urban areas. Required field trip component of study abroad. Prerequisite: LARC 3413.

**LARC 4376. Landscape Architecture Design VII (Fa). 6 Hours.**  
(Formerly LARC 4375) Synthesis of all previous course work; an introduction to the theory and practice of larger scale planning with an emphasis on design of systems in urbanizing environments. Studio and lecture. Prerequisite: LARC 3366 and LARC 4413.

**LARC 4376H. Honors Landscape Architecture Design VII (Fa). 6 Hours.**  
Synthesis of all previous course work; an introduction to the theory and practice of larger scale planning with an emphasis on design of systems in urbanizing environments. Studio and lecture. Prerequisite: LARC 3366 and LARC 4413 and Honors candidacy. This course is equivalent to LARC 4376.

**LARC 4382. Senior Project Preparation (Sp). 2 Hours.**  
Definition and planning of personally selected senior demonstration project. Requires full documentation of topical research, program development, site data collection, site analysis, and site project base maps. Studio and lecture. Prerequisite: LARC 4376.

**LARC 4413. History of Landscape Architecture II (Sp). 3 Hours.**  
Critical study and analysis of landscape architecture from nineteenth century to the present, with an emphasis on the philosophical and design theories that have influenced the form of gardens, parks, and cities.

**LARC 4413H. Honors History of Landscape Architecture II (Sp). 3 Hours.**  
Critical study and analysis of landscape architecture from mid-nineteenth century to the present. Emphasis on the philosophical and design theories that have influenced the form of gardens, parks, and cities. Prerequisite: Honors candidacy. This course is equivalent to LARC 4413.

**LARC 4523H. Landscape Architecture Honors Thesis (Irregular). 3 Hours.**  
Development and production of an honors thesis proposal and thesis. Required for all landscape architecture honors students. Prerequisite: Honors standing.

**LARC 4714. Landscape Architecture Construction IV (Fa). 4 Hours.**  
(Systems) Introduction to systems of landscape architectural construction including stormwater management, lighting, irrigation, water features, and erosion control. Emphasis on an advanced grading and landform manipulation skills, and stormwater system design and calculations. Significant integration of computer generated drawings. Lecture and laboratory. Prerequisite: LARC 2714.

**LARC 4714H. Honors Landscape Architecture Construction IV (Fa). 4 Hours.**  
(Systems) Introduction to systems of landscape architectural construction including stormwater management, lighting, irrigation, water features, and erosion control. Emphasis on an advanced grading and landform manipulation skills, and stormwater system design and calculations. Significant integration of computer generated drawings. Lecture and laboratory. Prerequisite: LARC 2714 and Honors candidacy. This course is equivalent to LARC 4714.

**LARC 4743. Public Participation in Design and Planning (Irregular). 3 Hours.**  
The course analyzes the role and participation of multiple stakeholders in planning, design and development scenarios. Public participation techniques covered include questionnaire design, charrettes, grassroots organizing, stakeholder identification and analysis, and other strategies for involving the public, including engaging underrepresented groups.

**LARC 4743H. Honors Public Participation in Design and Planning (Irregular). 3 Hours.**  
The course analyzes the role and participation of multiple stakeholders in planning, design and development scenarios. Public participation techniques covered include questionnaire design, charrettes, grassroots organizing, stakeholder identification and analysis, and other strategies for involving the public, including engaging underrepresented groups. This course is equivalent to LARC 4743.

**LARC 4753. Incremental Sprawl Repair (Irregular). 3 Hours.**  
Exploration of the causes, manifestation and results of suburban sprawl on the built environment. Design and planning strategies linked to landscape, urbanism, policy, transportation, resource-conservation, ecology, and social structures are proposed. Emphasis is placed on combining traditional and cutting edge methods for repairing sprawled cities and regions. Prerequisite: 4th or 5th year student or instructor approval.

**LARC 4753H. Honors Incremental Sprawl Repair (Irregular). 3 Hours.**

Exploration of the causes, manifestation and results of suburban sprawl on the built environment. Design and planning strategies linked to landscape, urbanism, policy, transportation, resource-conservation, ecology, and social structures are proposed. Emphasis is placed on combining traditional and cutting edge methods for repairing sprawled cities and regions. Prerequisite: 4th or 5th year student or instructor approval.

This course is equivalent to LARC 4753.

**LARC 4943. Perspectives on Historic Preservation (Fa). 3 Hours.**

Introduction of history, theory, and praxis of preservation design, emphasizing development and implementation of preservation projects in the practices of architecture, landscape architecture and interior design. Central themes include: preservation as a form of design; principles, rationales, and ideologies associated with preservation practice; and sustainable strategies for preservation design. Prerequisite: ARCH 2233 and ARCH 2243 or LARC 3413 and LARC 4413 or IDES 2883.

This course is cross-listed with IDES 4943, ARCH 4943.

**LARC 4943H. Honors Perspectives on Historic Preservation (Fa). 3 Hours.**

Introduction of history, theory, and praxis of preservation design, emphasizing development and implementation of preservation projects in the practices of architecture, landscape architecture and interior design. Central themes include: preservation as a form of design; principles, rationales, and ideologies associated with preservation practice; and sustainable strategies for preservation design. Prerequisite: ARCH 2233 and ARCH 2243 or LARC 3413 and LARC 4413 or IDES 2883.

This course is cross-listed with LARC 4943, IDES 4943, ARCH 4943.

**LARC 5043. Landscape Architecture Seminar (Irregular). 3 Hours.**

The role of the landscape architect in contemporary society; how this is affected by technological change and awareness of ecological problems. Group discussions, individual research projects, and guest lectures. Prerequisite: Fourth-year standing.

**LARC 5053. Historic Landscape Preservation (Irregular). 3 Hours.**

Survey of historic preservation as a profession and the emerging cultural landscape preservation movement. Introduction to preservation principles as described by the Secretary of the Interiors Standards and Guidelines. Analysis of case studies will reinforce basic philosophies and introduce preservation approaches. Prerequisite: LARC 3413 and LARC 4413.

**LARC 5053H. Honors Historic Landscape Preservation (Irregular). 3 Hours.**

Survey of historic preservation as a profession and the emerging cultural landscape preservation movement. Introduction to preservation principles as described by the Secretary of the Interiors Standards and Guidelines. Analysis of case studies will reinforce basic philosophies and introduce preservation approaches. Prerequisite: LARC 3413 and LARC 4413 and Honors candidacy.

This course is equivalent to LARC 5053.

**LARC 5063. Alternative Stormwater Management (Irregular). 3 Hours.**

Introduction to the role of alternative stormwater management techniques toward a more sustainable development to include constructed wetlands, bioswales, rain water harvesting, green roofs, and other stormwater reduction techniques. Emphasis on multidisciplinary team approach to problem solving. This course is open to non-majors and includes both lecture and laboratory time.

**LARC 5386. Landscape Architecture Design VIII (Sp). 6 Hours.**

Investigation of the relationship between development, stewardship and land use of the regional scale. Natural resource systems, public policies, regional economics, and social contexts inform environmental land use planning and design decisions. Geographic information systems (GIS) used as an analysis tool. Lecture and GIS lab. Prerequisite: LARC 4376 or instructor approval.

**LARC 5386H. Honors Landscape Architecture Design VIII (Sp). 6 Hours.**

Investigation of the relationship between development, stewardship and land use of the regional scale. Natural resource systems, public policies, regional economics, and social contexts inform environmental land use planning and design decisions. Geographic information systems (GIS) used as an analysis tool. Lecture and GIS lab.. Prerequisite: LARC 4376 and Honors candidacy.

This course is equivalent to LARC 5386.

**LARC 5396. Landscape Architecture Design IX (Fa). 6 Hours.**

Advanced design studio with an emphasis on individual or team research and design resolution. Includes all aspects of design process: inventory, programming, graphic documentation, formal oral presentation, and a written report. Prerequisite: LARC 5386.

**LARC 5396H. Honors Landscape Architecture Design IX (Fa). 6 Hours.**

Advanced design studio with an emphasis on individual or team research and design resolution. Includes all aspects of design process: inventory, programming, graphic documentation, formal oral presentation, and a written report. Prerequisite: LARC 5386.

This course is equivalent to LARC 5396.

**LARC 5493. Environmental Land Use Planning (Sp). 3 Hours.**

Investigation of the relationship between development, stewardship and land use on the city and regional scales. Natural resource systems, public policies, regional economics, and social contexts are investigated as informers of environmental planning and design decisions. Prerequisite: Junior standing or instructor approval.

**LARC 5493H. Honors Environmental Land Use Planning (Sp). 3 Hours.**

Investigation of the relationship between development, stewardship and land use on the city and regional scales. Natural resource systems, public policies, regional economics, and social contexts are investigated as informers of environmental planning and design decisions. Prerequisite: Junior standing or instructor approval.

This course is equivalent to LARC 5493.

**LARC 5613. Landscape Architectural Professional Practice (Sp). 3 Hours.**

Professional responsibilities and related aspects of landscape architecture practice: ethics; office organization; client, contractor and landscape architect relationships; legal issues, contracts and documents; regulations; review of bidding and contractual documents.

## Latin (LATN) Courses

**LATN 1003. Elementary Latin I (Fa). 3 Hours.**

The rudiments of classical Latin, with concentration on grammar, vocabulary, and syntax. Short selections from ancient authors lead to basic reading ability.

**LATN 1013. Elementary Latin II (Sp). 3 Hours.**

A continuation of the rudiments of classical Latin, with concentration on grammar, vocabulary, and syntax. Short selections from ancient authors lead to basic reading ability.

**LATN 2003. Petronius' Satyricon (Fa). 3 Hours.**

Development of reading skills through selections from Satyricon, and an introduction to imperial history and culture through critical study of the novel in translation. Prerequisite: LATN 1013 or equivalent.

**LATN 2013. Catullus (Sp). 3 Hours.**

Development of reading skills through selections from Catullus' poems, and an introduction to the culture and history of the late republic through critical study of Catullus in translation and secondary works. Prerequisite: LATN 2003 or equivalent.

**LATN 3003. Virgil and Ovid (Fa). 3 Hours.**

Selections from the Aeneid and/or the Metamorphoses, and an introduction to Roman literary history through the critical study of these works in translation. Prerequisite: LATN 2013 or equivalent.

**LATN 3013. Caesar (Sp). 3 Hours.**

Selected readings from Caesar's commentaries on Gallic or Civil Wars, and an overview of Republican political and military history through the critical study of the commentaries in translation and secondary works. Prerequisite: LATN 3003 or equivalent.

**LATN 3063. Intensive Elementary Latin Reading (Su). 3 Hours.**

Overview of Latin grammar, vocabulary and syntax, leading to reading prose texts. For undergraduates who want short, intensive introduction to Latin and graduate students working towards reading proficiency. Successful completion fulfills graduate student research reading proficiency requirement. LATN 3063 alone cannot fulfill the Foreign Language requirement in Fulbright College. No credit for this course and LATN 1003 and/or LATN 1013.

**LATN 4003. Roman History (Irregular). 3 Hours.**

Selections from Sallust, Livy, Tacitus, or Suetonius. An overview of Roman Historiography through the critical study of complete works in translation and secondary works. Prerequisite: LATN 3013 or equivalent.

**LATN 4013. Roman Satire (Irregular). 3 Hours.**

Selections from the satires of Horace, Juvenal, Persius, or Seneca. An overview of Roman humor and the genre of satire through the critical study of complete works in translation and secondary works. Prerequisite: LATN 3013 or equivalent.

**LATN 4023. Roman Didactic Epic (Irregular). 3 Hours.**

Selections from Virgil's *Georgics*, Lucretius' *De Rerum Natura*, or Manilius' *Astronomica*. An overview of Roman philosophical poetry through the critical study of complete works in translation and secondary works. Prerequisite: LATN 3013 or equivalent.

**LATN 4033. Roman Drama (Irregular). 3 Hours.**

Selections from Plautus, Terence, or Seneca. An overview of Roman theater through the critical study of complete works in translation and secondary works. Prerequisite: LATN 3013 or equivalent.

**LATN 4043. Roman Elegy (Irregular). 3 Hours.**

Selections from Propertius, Tibullus, or Ovid. An overview of the genre through the critical study of complete works in translation and secondary works. Prerequisite: LATN 3013 or equivalent.

**LATN 4063. Roman Pastoral and Lyric (Irregular). 3 Hours.**

Selections from Catullus, Virgil's *Eclogues*, Horace's *Odes*, or Calpurnius Siculus. An overview of the two genres through the critical study of complete works in translation and secondary works. Prerequisite: LATN 3013 or equivalent. May be repeated for up to 6 hours of degree credit.

**LATN 4073. Roman Novel (Irregular). 3 Hours.**

Selections from Petronius or Apuleius. An overview of the genre through the critical study of complete works in translation and secondary works. Prerequisite: LATN 3013 or equivalent.

**LATN 4083. Roman Oratory (Irregular). 3 Hours.**

Selections from the orations and theoretical works of Cicero, Seneca the Elder, or Quintilian. An overview of the genre through the critical study of complete works in translation and secondary works. Prerequisite: LATN 3013 or equivalent. May be repeated for up to 6 hours of degree credit.

**LATN 4093. Roman Philosophy (Irregular). 3 Hours.**

Selections from the philosophical works of Cicero or Seneca. An overview of Roman philosophy through the critical study of complete works in translation and secondary works. Prerequisite: LATN 3013 or equivalent. May be repeated for up to 6 hours of degree credit.

**LATN 475V. Special Investigations (Irregular). 1-6 Hour.**

May be repeated for degree credit.

**LATN 5633. Medieval Latin (Irregular). 3 Hours.**

Selections from medieval writers from the 4th to the 17th century. Prerequisite: LATN 3003 or equivalent.

**LATN 575V. Special Investigations (Irregular). 1-6 Hour.**

May be repeated for degree credit.

## Latin American and Latino Studies (LAST) Courses

**LAST 2013. Latin American Studies (Irregular). 3 Hours.**

This course provides an interdisciplinary introduction to Latin America. Drawing on Latin American literature, history, sociology, and political science, the course examines the broad forces that have shaped the region. This course is cross-listed with ANTH 2013.

**LAST 399VH. Honors Thesis (Sp, Fa). 1-6 Hour.**

Prerequisite: Junior standing.

**LAST 4003. Latin American Studies Colloquium (Sp). 3 Hours.**

An interdepartmental colloquium with an annual change in subject of investigation, required of all Latin American studies majors. Prerequisite: Sophomore standing for Latin American studies majors and honors students. May be repeated for up to 6 hours of degree credit.

**LAST 4003H. Honors Latin American Studies Colloquium (Sp). 3 Hours.**

An interdepartmental colloquium with an annual change in subject of investigation, required of all Latin American studies majors. Prerequisite: sophomore standing for Latin American studies majors and honors students. May be repeated for up to 6 hours of degree credit.

This course is equivalent to LAST 4003.

## Law (LAWW) Courses

**LAWW 400V. Entertainment Law (Irregular). 1-6 Hour.**

Examines the legal principles and relationships of the entertainment industry, with a primary emphasis on the music industry; provides an introduction to the practice of entertainment law and the negotiation of entertainment contracts; highlights a variety of legal and practical issues that arise when representing clients in the entertainment industry.

**LAWW 4013. Legal Research & Writing I (Fa). 3 Hours.**

An introduction to the special problems posed by the legal analysis and the expression of the results of that process. The primary emphasis will be on basic legal analysis techniques, basic legal writing skills, and proper citation form. Students will complete a series of writing assignments.

**LAWW 4024. Contracts (Irregular). 4 Hours.**

Formation and enforcement by litigation and commercial arbitration of commercial and family agreements. Mutual assent or consideration; third-party beneficiaries; assignments; joint obligation; performance; anticipatory breach; discharge of contractual duties; and the Statute of Frauds.

**LAWW 4054. Property (Irregular). 4 Hours.**

This course deals with the creation and transfer of rights over property. The primary emphasis will be on entitlements in land. Subject to variations among professors, topics will include the rights of landowners to exclude others, estates in land, co-ownership, landlord-tenant law, real estate and personal property transactions, and servitudes.

**LAWW 406V. Upper Level Writing (Sp, Su, Fa). 1-3 Hour.**

Second year students must take at least one 2 or 3-hour course in upper level research and writing which has been certified by the faculty as an Upper Level Writing course. The course, which is constructed around a special topic or specific area of the law, focuses on writing or drafting. Writing component accounts for at least 2/3 of the final grade. Prerequisite: LAWW 4013 and LAWW 4113. May be repeated for up to 10 hours of degree credit.



**LAWW 4074. Criminal Law (Irregular). 4 Hours.**

Deals with the questions of what conduct society punishes through a criminal code and of the appropriate punishment for the forbidden conduct. In this context the course includes an analysis of the theories of punishment, the definitions of various crimes, the defenses available to one charged with criminal conduct, and the limitations placed by the Constitution on governmental power in the criminal law area. Throughout the course, special emphasis is placed on the legislature's role in creating statutes alongside the judiciary's corresponding role in interpreting those statutes.

**LAWW 4104. Civil Procedure (Fa). 4 Hours.**

Study of the process of civil litigation from preliminary matters such as court selection and jurisdiction, through joinder of parties and discovery techniques, to disposition of cases and finality of judgments. Some attempt is made to cover the antecedents of modern procedure; where appropriate, suggestions for reform are developed in class discussion. Emphasis is on the Federal Rules of Civil Procedure.

**LAWW 4113. Legal Research & Writing II (Sp). 3 Hours.**

An introduction to persuasive writing techniques and intermediate computer research. Student will write a full appellate brief and deliver an oral argument. Prerequisite: LAWW 4013.

**LAWW 4132. Upper Level Writing: Gender-Based Violence & Human Rights Policies & Procedures (Irregular). 2 Hours.**

The course explores various forms of gender-based violence in public and private spheres and the relationship between this violence and discourse on human rights in both the legal and policy arenas. Also considers additional solutions to the prevention of sexual violence including the economic empowerment of women, the education of girls, and others. Meets the Upper Level Writing Requirement.

**LAWW 4144. Torts (Irregular). 4 Hours.**

An introduction to basic principles of liability for harm to persons and property. The course analyzes various categories of tortious conduct, defenses and immunities, damages, and underlying principles and policies justifying liability.

**LAWW 4153. Property II (Sp). 3 Hours.**

Emphasis is on real property. Basic concepts are covered, including property rights in lost and found articles (general property concepts), types and historical origins of estates, and other interests in land. Property transfer techniques, such as gifts, leases (landlord and tenant), and the sale of land are also considered. Land transfer techniques, including the land sale contract, the deed, the recording system, and methods of real property title assurance are discussed. Certain aspects of land use controls are explored briefly.

**LAWW 4173. Criminal Procedure I (Irregular). 3 Hours.**

Generally this course focuses on: (1) criminal investigation practices, more precisely, contacts between the police and persons suspected or accused of crime, at the time of or shortly before and after arrest; (2) the federal constitutional rights of suspects in their contacts with the police or, stated another way, the federal constitutional restrictions (or lack of restrictions) on the police, based on the 4th, 5th, 6th, and 14th amendments; (3) the exclusionary rule, which limits the admissibility of evidence obtained by the police from suspects in violation of their federal constitutional rights; and (4) United States Supreme Court jurisprudence.

**LAWW 4182. Upper Level Writing - Business Drafting (Irregular). 2 Hours.**

ULW-Business Drafting is an advanced writing course that takes students through a number of writing assignments. It is geared at teaching students to produce prescriptive writing, as oppose to predicting how the law would apply or persuading a reader about how the law should apply. This class therefore requires students to use information that they have gained in other classes, notably Business Organizations, and use it in drafting appropriate documents ranging from organizational forms, to documents describing how a business is to be operated, to commercial contracts. Students will also work on professionally communicating with various constituents such as clients and other attorneys about the contents of and rationale behind drafting choices in these documents. Prerequisite: LAWW 4294.

**LAWW 4203. Civil Procedure II (Sp). 3 Hours.**

Study of the process of civil litigations from such preliminary matters as court selection and jurisdiction to appeal and collateral attack of final judgments. Some attempt is given to cover the antecedents of modern procedure; and where appropriate, suggestions for reform are developed in class discussion. Emphasis is on the Federal Rules of Civil Procedure and on code pleading and common law procedure used in state court systems.

**LAWW 4212. Upper Level Writing: Police Discretion (Irregular). 2 Hours.**

This course will analyze the role of police discretion in the criminal justice system particularly in the context of traffic stops, interrogations, and suppression hearings. Although there are no prerequisites, students have ideally already taken Criminal Procedure and Criminal Procedure II.

**LAWW 4233. Upper Level Writing: Crime and the Supreme Court (Irregular). 3 Hours.**

This course critically examines criminal law and procedure cases currently pending before the Supreme Court. Students will construct hypothetical Supreme Court, argue selected cases, take a vote, and then produce an actual series of judicial opinions, and make an appellate argument. Prerequisite: LAWW 4013 and LAWW 4113.

**LAWW 4294. Business Organizations (Irregular). 4 Hours.**

This is an introductory, survey course focusing primarily on the law applicable to closely held businesses, including agency rules and the law applicable to general and limited partnerships, LLPs and LLLPs, limited liability companies, and corporations.

**LAWW 4442. Law & Accounting (Irregular). 2 Hours.**

Study of basic accounting principles and their importance to attorneys engaged in business related activities. Topics covered include the fundamental accounting equation, the nature of accrual accounting, understanding financial statements, and accounting for assets and liabilities. Also a review of basic principles associated with financial statement analysis and valuation principles. Intended for students with little or no business training, and may not be taken for credit by students who have previously earned 6 or more hours of undergraduate or graduate credit in accounting courses.

**LAWW 445V. Mastering Legal Analysis (Irregular). 1-2 Hour.**

In this course students will revisit and expand upon the core principles of legal analysis. This course will be based on an active-learning model with a focus on practicing legal analysis under time-pressured conditions. The professor will provide extensive individualized feedback on exercises. The materials for this course will largely be drawn from the written portions of the bar exam (both Arkansas and UBE).

**LAWW 500V. Special Topics (Irregular). 1-18 Hour.**

Included under this heading will be a variety of variable credit law courses taught by law faculty on topics that are not included elsewhere in the curriculum. May be repeated for up to 18 hours of degree credit.

**LAWW 5013. Professional Responsibility (Irregular). 3 Hours.**

Role of the lawyer as counselor, advocate, and public servant; obligation to society of the individual lawyer and the profession as a whole; ethical problems of the profession; representation of the unpopular cause and the desirable client, lawyers' obligation to law reform; lawyer and the press; the lawyer in public service; the aspects of law office management.

**LAWW 502V. Remedies (Irregular). 3-4 Hour.**

Covers equity (jurisdiction and powers of courts of equity, injunctions, including adequacy of legal remedies, balancing of equities, interests protected, and defenses), damages (compensatory, exemplary, and nominal damages; direct and consequential damages; mitigation; special application in contract and tort actions) and restitution (relief afforded by the judicial process, to prevent unjust retention of benefits).

**LAWW 5031. Basic Title Examination (Fa). 1 Hour.**

Basic Title Examination is a course designed to teach students how to examine abstracts of title and other compilations of public real estate records to determine ownership and marketability of surface title. The course utilizes the theoretical understanding gained from traditional substantive law courses including Property and Decedents' Estates but teaches applied practical skills not usually taught in those courses.

**LAWW 5041. Oil and Gas Title Examination (Fa). 1 Hour.**

Oil and Gas Title Examination is a course designed to teach students who have successfully completed Basic Title Examination how to use abstracts of title and other compilations of public real estate records to determine ownership and marketability of minerals, including oil and gas, and oil and gas leasehold, royalty, overriding royalty and other similar interests. The course utilizes the theoretical understanding gained from traditional real property and oil and gas law courses, but teach practical skills not currently taught in the usual classroom setting. Pre- or Corequisite: LAWW 5031.

**LAWW 5053. Energy Law (Irregular). 3 Hours.**

Energy law governs the life cycle of energy resources, from resource development and generation of electricity to the end use in homes, businesses, and cars. In this growing area of practice, energy lawyers represent energy companies, public utilities, government agencies, and non-profit organizations. The course provides a survey of how different sources of energy - hydropower, oil and natural gas, coal, nuclear energy, and renewables - are regulated. Through this survey, we will consider important policy issues such as public utility regulation and the role of markets; the federal-state balance; and environmental impacts and the future of clean energy.

**LAWW 5073. Domestic Relations (Irregular). 3 Hours.**

Devoted primarily to the problems generated by family relationships. There is a large section on formation and dissolution of marriage. Substantial time is also given to paternity and legitimacy, obligations toward and of children, custody, adoption, guardianship, general property law as it is affected by family relationships, and divorce and custody in the federal system (focusing primarily on enforceability of decrees in one state by courts sitting in another state).

**LAWW 5083. First Amendment (Irregular). 3 Hours.**

An intensive examination of the legal issues arising under the First Amendment to the United States Constitution, with an emphasis on basic free speech doctrines and the dilemmas posed by interplay between the free exercise and establishment clauses. Prerequisite: LAWW 5114.

**LAWW 510V. Law: Study Abroad (Irregular). 1-6 Hour.**

Open to law students studying abroad in officially sanctioned programs.

**LAWW 5114. Constitutional Law (Sp). 4 Hours.**

An introduction to the basic principles of constitutional law and to current constitutional doctrines and problems. The primary focus will be on the structure of the federal system and on the rights of individuals under the Due Process and Equal Protection clauses of the Fifth and Fourteenth Amendments.

**LAWW 5122. ABOTA Trial Practice Lecture Series (Sp). 2 Hours.**

Lecture series by experienced and prominent Arkansas trial attorneys, lecturing on case evaluation, jury instructions, witness preparation, scheduling orders, courtroom civility, voir dire, opening statement, direct and cross-examination, objections, and closing arguments.

**LAWW 5133. Real Estate Transactions (Irregular). 3 Hours.**

Focuses on real estate transfer, real estate finance and real estate development. Issues relating to the sale of land and conveyances of real property, mortgages and the planning, financing, constructing and marketing of modern real estate developments are treated.

**LAWW 5163. Administrative Law (Irregular). 3 Hours.**

Course is constructed around Federal materials, but with some state references. Considers the origin and constitutional basis for the administrative process; executive and legislative controls with particular emphasis upon the judicial "control" of the administrative process (delegations, procedural and substantive due process, judicial assistance and enforcement and review of administrative decisions).

**LAWW 5191. Deposition Practice (Irregular). 1 Hour.**

The focus of this class is to teach how to take, defend and use depositions in civil cases. There will be extensive study of Rules 28-32 of the Arkansas and Federal Rules of Civil Procedure. Additionally, the State and Federal cases applicable to depositions will be discussed and reviewed. Discussion on the practicality of a deposition such as the timing, scheduling and expenses in depositions. Students will observe parts of several video depositions followed by a discussion.

**LAWW 520V. Employment Discrimination (Irregular). 2-3 Hour.**

The study of the significant cases and statutes that protect employees from discrimination based on race, color, religion, sex, national origin, age, and disability, with emphasis on Title VII of the Civil Rights Act of 1964, the Age Discrimination in Employment Act, and the Americans with Disabilities Act.

**LAWW 5213. Business Lawyering Skills (Irregular). 3 Hours.**

Synthesis of legal principles dealing with taxation and form of business organizations to provide guidance in choosing form and operating business entities. Certified skills course. Prerequisite: LAWW 4294.

**LAWW 5252. International Commercial Arbitration (Irregular). 2 Hours.**

This course will survey the history, purposes, and processes of international commercial arbitration.

**LAWW 527V. Law and Economics (Irregular). 2-3 Hour.**

Law and Economics examines legal and policy issues by critically analyzing whether legal rules provide the greatest good to the greatest number of people. The class offers an introduction to basic economic principles, while providing a useful review of many core law school and bar exam subjects.

**LAWW 5293. Cyber Crime (Irregular). 3 Hours.**

This course examines the law governing computer crime and the limits on law enforcement surveillance. We consider substantive crimes such as hacking, identity theft, economic espionage, and online threats before we examine the Fourth Amendment, the Wiretap Act, and other limits on law enforcement.

**LAWW 5303. International and Domestic Sales and Leasing (Irregular). 3 Hours.**

Study of Articles 2 and 2A of the Uniform Commercial Code and the United Nations Convention on Contracts for the International Sale of Goods".

**LAWW 5313. Payment Systems (Irregular). 3 Hours.**

This course summarizes and explains the fundamental law applicable to a broad variety of current payment systems. Coverage includes issues of liability, transfer, holder in due course status, and check collection applicable to negotiable instruments (checks, notes, drafts) governed by UCC Articles 3 and 4, as well as letters of credit and documents of title governed by UCC Articles 5 and 7. The course further examines the rights, obligations, and federal protection applicable to credit and debit cards. Finally, it addresses recent legal developments in regard to a variety of electronic fund transfers, prepaid cards and digital currencies.

**LAWW 5351. Arkansas Constitutional Law (Irregular). 1 Hour.**

This course covers provisions of the Arkansas Constitution, including the Declaration of Rights, the separation of powers, the power of the executive and legislative branches, sovereign immunity, independent commissions, gambling and morality provisions, elections and term limits, taxation and exemptions, taxpayer lawsuits, and other topics.

**LAWW 5363. Securities Regulation (Irregular). 3 Hours.**

This course explores the federal regulation of securities, with emphasis on the Securities Act of 1933 and the Securities Exchange Act of 1934. Topics examined include: the definition of a securities, public company disclosures, enforcement issues, antifraud rules, and insider trading liability, public offering mechanics, and exempt offerings. Prerequisite: LAWW 4294.

**LAWW 5382. Employment Discrimination (Irregular). 2 Hours.**

This course focuses on the study of the significant cases and statutes that protect employees from discrimination based on race, color, religion, sex, national origin, age, and disability, with emphasis on Title VII of the Civil Rights Act of 1964, the Age Discrimination in Employment Act, and the Americans with Disabilities Act. Final exam will be a take-home exam.

**LAWW 5391. Effective Corporate Compliance Program (Irregular). 1 Hour.**

This course will provide a high-level overview of the importance and structure of an effective compliance program within a business, with the purpose of mitigating legal risk. The Federal Sentencing Guidelines specify the elements of an effective compliance program, and federal agencies like the Office of Inspector General for the Department of Health and Human Services, as well as some state agencies (New York Office of Medicaid Inspector General) have interpreted these or implemented them through regulation. Students who choose to work for a corporation (even in the legal department) will need to be familiar with how that corporation implements the elements of an effective compliance program, so as to effectively defend or advise the corporation.

**LAWW 5451. Environmental Torts (Irregular). 1 Hour.**

The focus of this class is common law environmental torts resulting in property damage, including negligence, trespass, strict liability, and nuisance. Presented are the elements of those causes of action and a review of common environmental tort fact patterns. Also discussed are issues associated with environmental torts, such as imputed liability, and defenses. Review remedies for damage to property and individuals.

**LAWW 547V. State and Local Government (Irregular). 2-3 Hour.**

As citizens, much of our interaction with the law is local. Local governments determine the location of our nearest grocery store, how high (or low) property taxes will be, whether to maintain a public library, how late bars can serve alcohol, and even whether it is lawful to keep a pet python. Local government activity is significant, immediate, and pervasive. Despite the importance of local government law and institutions, most law school courses focus only on federal and state sources of law with little or no mention of local government. This course aims to address this void by providing a useful overview of core legal doctrines affecting the structure, authority, financing, and liabilities of local government in the United States. The course also covers the theoretical and empirical research underlying those doctrines, and is structured to provide a broad understanding of local government relevant to most United States jurisdictions.

**LAWW 550V. Wills, Trusts, and Estates (Irregular). 1-4 Hour.**

This is the study of the traditional areas of wills and trusts (intestate and testate succession). The trusts area includes both the private trust and the charitable trust. Taxation problems are not covered in depth but are instead reserved for the Federal Estate & Gift Taxation course.

**LAWW 5513. Labor Law (Irregular). 3 Hours.**

The right to organize; organization of labor unions; strikes; picketing; boycotts; collective bargaining; collective labor agreements and their enforcement; unfair labor practices by employers and by unions; the union member and his union; state labor relations legislation; the National Labor Relations Act and the Labor Management Relations Act. Not offered every year.

**LAWW 5523. General Practice Capstone I (Fa). 3 Hours.**

General Practice Capstone I is designed to provide students with practical information to help them transition from law school to a general practice. Experienced practitioners will present a series of workshops on discrete practice areas like criminal defense, family law, personal injury, depositions, estate planning and probate, legal ethics, and small business advisement. Includes access to practice checklists, pleadings, forms, and law practice aids.

**LAWW 5533. General Practice Capstone II (Sp). 3 Hours.**

General Practice Capstone II complements Capstone I, and moves the focus topically to practical lawyering in common administrative law areas. The spring workshop series focuses on administrative proceedings in criminal law (probation, parole, drug court, habeas corpus), in-house details on employment law (employee manuals and termination policies); termination and unemployment including Workers Compensation, Social Security Disability, Veterans Benefits, Nursing Home Administration, Medicare and Medicaid.

**LAWW 5600. Law Research Assistant (Sp, Su, Fa). 0 Hours.**

Law Research Assistant is a zero-credit course available to students who work with or under the supervision of a faculty member on a research project that contributes significantly to faculty research, course preparation or presentation, or other scholarly work for or under the direction of a faculty member. Except as otherwise approved by the supervising faculty member with the concurrence of the Associate Dean for Academic Affairs, only students who have successfully completed or are currently registered for Law 5622 Essential Legal Research may enroll. Students who are working on research with or under the direction of a faculty member must have the written pre-approval of the supervising faculty to be registered and must obtain from the Law School Registrar and complete and submit to the Registrar the course request form.

**LAWW 5613. Capital Punishment (Irregular). 3 Hours.**

This course examines the death penalty in America. It considers whether we can ever justify imposing the death penalty and whether we can do so fairly. But we will focus on Supreme Court cases to understand how the death penalty works in practice.

**LAWW 5622. Essential Legal Research (Sp, Fa). 2 Hours.**

This course covers the strategies, techniques, books, and databases essential to perform cost-effective legal research necessary for the practice of law and to assist faculty members as research assistants.

**LAWW 5643. International Criminal Law (Irregular). 3 Hours.**

This course will survey important topics in international criminal law such as genocide, war crimes, and crimes against humanity. It will trace the use of international tribunals from the Nuremberg and Tokyo tribunals to the International Criminal Court to enforce these international criminal laws.

**LAWW 5662. Mergers and Acquisitions (Irregular). 2 Hours.**

This course examines the legal and business considerations involved in the purchase and sale of a business, including an in-depth look at various transactional structures and the implications for shareholder voting, appraisal rights, along with an extensive review of director duties at all stages of the deal. Pre- or Corequisite: LAWW 4294.

**LAWW 5673. Nonprofit Corporations (Irregular). 3 Hours.**

This course examines issues relating to the organization, operation, governance, and dissolution of various nonprofit entities, including charitable and public benefit corporations. Topics covered include the regulation of charitable contributions and their solicitation, obtaining and protecting tax-exempt status, and political and business activities of nonprofit organizations.

**LAWW 5692. Rule of Law Colloquium (Irregular). 2 Hours.**

Course is about inquiry and exploration. Course covers the Foreign Corrupt Practices Act, the UK Bribery Act, and other anti-corruption initiatives. The context of why corruption exists and ways to address it, including through means other than legal prohibitions.

**LAWW 5701. Baseball and the Law (Irregular). 1 Hour.**

This course includes cases on the power of the commissioner; the taxes of a Dodger shortstop; antitrust law and Curt Flood; ownership of Barry Bond's home run ball #73; negligence at Wrigley Field; removal jurisdiction and Pete Rose; publicity rights to the Babe; criminal law and the Black Sox; trademark law.

**LAWW 5771. Mergers and Acquisitions Drafting Lab (Irregular). 1 Hour.**

This course exposes students to an array of documents used accomplish mergers and acquisitions of companies. Throughout the semester, students draft a series of agreements, which parallel the development of a typical acquisition, including confidentiality agreements, letters of intent, purchase agreements, and opinion letters. Pre- or Corequisite: LAWW 5662.

**LAWW 5881. Arkansas Landlord Tenant Law (Irregular). 1 Hour.**

The course will explore Arkansas landlord tenant law along with proposals for revision of the law. Topics covered will be the forcible entry and detainer statute, the security deposit statute, the failure to vacate statute, the residential landlord tenant act, and Arkansas's limitation on tort liability for landlords. Discussion on the federal laws governing HUD tenancies and the greater rights afforded in those tenancies. The course will discuss both theory and practice.

**LAWW 599V. Debtor-Creditor Relations (Irregular). 3-4 Hour.**

Study of Article 9 of the Uniform Commercial Code and of the remedies of unsecured creditors.

**LAWW 602V. Independent Legal Research (Sp, Su, Fa). 1-3 Hour.**

Independent legal research conducted under the supervision of faculty members. Ordinarily a student may not accumulate more than two semester hours of credit for Independent Legal Research. This cumulative maximum may be exceeded only by special permission of the dean, who in exceptional circumstances may approve a cumulative maximum credit of three semester hours of credit for Independent Legal Research.

**LAWW 603V. Federal Courts (Irregular). 1-3 Hour.**

Focus is on essential aspects of federal court procedure, the scope and limits of federal judicial power, and the underlying principles of federalism and separation of powers. Topics will include federal court jurisdiction, the power of Congress to limit that jurisdiction, Supreme Court review of state court judgments, and abstention and justiciability doctrines.

**LAWW 6063. Advanced Evidence (Irregular). 3 Hours.**

Deals with the use of expert witnesses, forensic sciences and scientific evidence, organization of proof, burden of proof, presumptions, and the law of privileges.

**LAWW 607V. Conflict of Laws (Irregular). 2-3 Hour.**

Study of the legal principles involved in problems which have connections with two or more states requiring a choice-of-law, choice-of-law in federal courts, and jurisdiction in multi-state situations.

**LAWW 6093. Basic Evidence (Irregular). 3 Hours.**

Study of the rules of evidence under which trials are conducted; the methods by which items of evidence are admitted or excluded; relevancy, real evidence, testimonial proof, and hearsay and its exceptions.

**LAWW 611V. Interschool Competition Team (Sp, Fa). 1-2 Hour.**

Interschool Competition Team provides an avenue for outstanding student advocates to register their completion of a rigorous interschool competition for purposes of academic credit. Students may register for this credit after satisfying the standards for approval of non-graded credit for Interschool Competition Credit, as outlined in the University of Arkansas School of Law Board of Advocates Bylaws and relevant Bylaw and Academic Standards provisions, as promulgated by the Faculty.

**LAWW 6133. Antitrust Law (Irregular). 3 Hours.**

Federal anti-trust laws and their relationship to concentrations of economic power in the contexts of monopoly mergers, price fixing, economic boycotts and discrimination, re-sale price maintenance, dealer franchises, and exclusive dealing. Comparative analysis of free enterprise market and government regulated industries. Recommended for second- and third-year students interested in business practice or government service, as well as social welfare, or students with an interest in the subject.

**LAWW 6143. Oil and Gas (Irregular). 3 Hours.**

Study of the law of oil and gas with emphasis on the interests that may be created in oil and gas, the rights of the landowner, provisions in the oil and gas lease, the rights of assignees, and legislation dealing with production and conservation.

**LAWW 614V. Board of Advocates Credit (Sp, Su, Fa). 1-4 Hour.**

Members of the Board of Advocates may receive ungraded academic credit, to be awarded in the spring semester of the member's third year in law school, upon completion of duties for the fall and spring semesters.

**LAWW 615V. Elder Law (Irregular). 1-2 Hour.**

Course covers the unique legal issues of the elderly including physical and mental characteristics of the elderly and how to adequately represent their needs; unique housing issues that progress from help at home to nursing home placement and how to pay for services with Medicaid and VA benefits; Medicaid and VA rules and planning for benefits; and the need for specific documents dealing with their impending incapacity, eventual death and passing with dignity.

**LAWW 616V. Law Review Credit (Sp, Su, Fa). 1-4 Hour.****LAWW 6173. Introduction to Intellectual Property Law (Irregular). 3 Hours.**

This is an overview course covering the basics of intellectual property law (IP law). Thus, this course focuses on the protection of proprietary rights in inventions, writings, creative expression, software, trade secrets, trade designations, and other intangible intellectual products by federal patent, copyright, trademark and unfair competition law, and by state trade secrecy and unfair competition law. The course aims to give students entering a general business or civil litigation practice an overview of the various intellectual property doctrines. The course is designed both for those who are interested in pursuing IP as a career, and those who are looking only for a basic knowledge of the subject. There are no prerequisites, and a scientific background is not required. J.D. students and non-law students are welcomed.

**LAWW 6182. Advanced Torts: Dignitary and Economic Harm (Irregular). 2 Hours.**

Course will cover defamation, the rights of privacy (including information privacy) and publicity, harm to family relationships, malicious prosecution and interference with common law civil rights.

**LAWW 618V. Journal of Food Law & Policy Credit (Sp). 1-5 Hour.**

Students receive credit for completion of duties on the Law School's publication of The Journal of Food Law & Policy.

**LAWW 6192. Workers' Compensation (Irregular). 2 Hours.**

Study of state legislation providing remedies for workers injured in the course of their employment. Not offered every year.

**LAWW 6193. Workplace Legislation (Irregular). 3 Hours.**

An in-depth look at workplace statutes and the interpretive regulations along with significant and recent case law. Emphasis on wage and hour law, the Family Medical Leave Act, Occupational Safety and Health law and Arkansas Unemployment Compensation law.

**LAWW 6203. Trial Advocacy (Sp, Fa). 3 Hours.**

An introduction to actual trial work and trial techniques through simulated exercises and the conduct of a mock trial. This course will satisfy the skills requirement. Pre- or Corequisite: LAWW 6093.

**LAWW 6213. Product Liability (Irregular). 3 Hours.**

An intensive study of the area including a review of the theories of liability; the concepts of product and defect; potential defendants; defenses; problems of proof and causation.

**LAWW 6223. Oil & Gas Regulation and Agreements (Irregular). 3 Hours.**

Oil and gas exploration and production is an important component of the economy of Arkansas and neighboring states. Out of necessity, this industry is highly regulated in every jurisdiction, but the manner of regulation varies widely from state to state. This course examines the rationale for such regulation, while comparing the regulatory approach of three neighboring states, Arkansas, Texas and Oklahoma which are typical examples of varying types of regulation. This course is designed to complement, rather than duplicate the basic Oil and Gas course, and will normally use the same casebook. A primary goal of this course is to learn how this regulation both shapes and constrains the ways that oil and gas industry operates. We also examine forms of agreement commonly used in oil and gas transactions to help students understand the functions of those, as well as their typical provisions. The course should be helpful to anyone whose practice may involve representing those who interact with the oil and gas industry, such as landowners, as well as those students considering an oil and gas related career. The guiding approach to the class is to provide the student with familiarity and understanding of the law that is involved in the real-world drilling, completing, and selling production from oil and gas operations, including today's unconventional plays, such as the Fayetteville Shale Play in Central Arkansas.

**LAWW 6233. Federal Income Tax of Individuals (Irregular). 3 Hours.**

Fundamentals of the federal income taxation of individuals. Topics covered include gross income, deductions, assignments of income, basis, taxation of property transactions, and tax accounting.

**LAWW 6243. Federal Estate and Gift Taxation (Irregular). 3 Hours.**

Fundamentals of the federal estate and gift transfer tax system. Topics covered include the determination of gifts for tax purposes, amounts included in decedents' gross estates, valuation, deductions and credits.

**LAWW 6253. Federal Income Taxation of Business Entities (Irregular). 3 Hours.**

Focus on tax issues in business formation, operation, distributions, and liquidations. Prerequisite: LAWW 6233.

**LAWW 6262. Estate Planning (Irregular). 2 Hours.**

Study of the role of lawyers (including ethical considerations) in fact gathering and analysis of data; testamentary and nonprobate transfers; planning for incapacity; Medicaid, income tax, and transfer tax considerations in small and large estates; gift techniques; planning for the surviving spouse; revocable and irrevocable trusts; life insurance; disposition of business interests; and post-mortem tax planning. Students are strongly encouraged to take either Wills, Trust and Estates or Federal Estate and Gift Taxation prior to taking the course.

**LAWW 6292. Advanced Corporations (Irregular). 2 Hours.**

Classical corporations law. Formation of corporations, duties and powers of corporate management, corporate control, shareholder rights, shares, dividends, derivative suits, fundamental changes and dissolution. Prerequisite: LAWW 4294.

**LAWW 631V. Interschool Competition Team (Sp, Fa). 1-2 Hour.**

Interschool Competition Team provides an avenue for outstanding student advocates to register their completion of a rigorous interschool competition for purposes of academic credit. Students may register for this credit after satisfying the standards for approval of non-graded credit for Interschool Competition Credit, as outlined in the University of Arkansas School of Law Board of Advocates Bylaws and relevant Bylaw and Academic Standards provisions, as promulgated by the Faculty.

**LAWW 6323. Poverty Law: Theory and Practice (Irregular). 3 Hours.**

Considers the implications of statutory and constitutional provisions that relate to several substantive areas of poverty law practice including public benefits, employment, consumer, health and family law. Prerequisite: LAWW 5114.

**LAWW 633V. Intellectual Property (Irregular). 2-3 Hour.**

This course involves an introductory survey of topics in intellectual property, including copyright, trademark, patent, and unfair competition issues. If time permits, the course may also cover certain aspects of e-commerce.

**LAWW 6343. Conflict Resolution (Irregular). 3 Hours.**

Explores methods utilized in the legal profession for resolving disputes. Students develop skills by participating in simulation exercises designed to identify and apply processes. Class readings/discussion on theory and practice will be followed by student simulations. Designed for second and third year law students.

**LAWW 635V. Arkansas Law Notes Credit (Irregular). 1-4 Hour.**

Arkansas Law Notes is published online as a student-run law journal by the University of Arkansas School of Law to members of the bar and the law school community at arkansaslawnotes.com. The publication features articles and current research, including student works. Law Notes is a tradition of the School of Law, dedicated to providing timely and insightful research on a variety of subjects to members of the bar. Law Notes is produced under the guidance of Professors Lonnie Beard, Uche Ewelukwa, and Brian Gallini. A mark of "CR" will be given.

**LAWW 6364. Legal Clinic: Immigration (Irregular). 4 Hours.**

Immigration Clinic will provide opportunities for students preparing for a career in immigration law or general practice by developing skills that are critical in legal practice through an experiential learning model. Working under the supervision of a clinical faculty member, students will represent sectors of the immigrant population for graded credit. Criminal Procedure and Professional Responsibility are prerequisites, as well as the completion of at least forty-eight credit hours prior to enrollment. Prerequisite: LAWW 5013.

**LAWW 6374. Legal Clinic: Federal Practice (Sp, Fa). 4 Hours.**

Students receive clinical legal experiences in federal courts and before federal administrative agencies. Although the particular experiences vary, Chapter 7 (no asset) bankruptcies and farm foreclosures are often emphasized.

**LAWW 6393. Legal Clinic: Transactional (Irregular). 3 Hours.**

Rule 15 certification requires completion of 48 hours, including all first year classes and Professional Responsibility. Students receive clinical legal experience counseling and representing non-profit organizations serving Northwest Arkansas in a wide range of non-litigation business law matters. Services include startup, incorporation, obtaining federal and state tax exemptions, change of business form, purchase and lease of real and personal property, employment and labor law issues, and general contract negotiation, drafting and execution. In addition, students prepare and participate as presenters in a workshop on matters of general interest to non-profit organizations. Legal Clinic Faculty supervise and review the student attorney's work, and provide personal feedback to the individual student attorneys. Prerequisite: LAWW 5013.

**LAWW 6403. Land Use (Irregular). 3 Hours.**

Covers public land use controls such as zoning, subdivision regulations, and eminent domain (including private property rights, takings, and inverse condemnation). Heavy emphasis is placed on planning at state and local levels.

**LAWW 6413. Legal Clinic: Advanced Criminal Practice (Irregular). 3 Hours.**

The Advanced Criminal Practice Clinic is a 3-credit course offered after a student has successfully completed Criminal Practice Clinic. Students who wish to continue work on existing cases or work on more complicated criminal matters, may apply to enroll in the Advanced Criminal Practice Clinic. Professor approval is required for enrollment. Prerequisite: LAWW 6424.

**LAWW 6424. Legal Clinic: Criminal Practice Clinic (Irregular). 4 Hours.**

The Criminal Practice Clinic represents clients charged with misdemeanor and simple felony charges primarily in Washington County. Under close faculty supervision, students develop their ability to effectively and ethically practice law while providing much-needed legal assistance. In addition to client representation, and court appearances, students participate in a weekly seminar. Qualification for Rule XV practice. Prerequisite: LAWW 6093, LAWW 4173, and LAWW 5013.

**LAWW 6453. American Legal History (Irregular). 3 Hours.**

An examination of major themes in American legal history, with an emphasis on the origins and meaning of the United States Constitution. Various topics will be explored in the light of the original understandings, developments over time, and current interpretations by the courts and the body politic.

**LAWW 646V. Student Coordinating Attorney (Sp, Fa). 1-3 Hour.**

The School of Law recognizes the educational value of placements under the supervision of licensed, experienced attorneys, and offers students the possibility of public service learning opportunity serving as a student coordinating attorney for 2-3 credits of ungraded credit if approved by the designated Faculty Supervisor. This option shall be available only to a student with a cumulative GPA of at least 2.0 who has successfully completed 30 hours of Law School classes including Professional Responsibility, and who has obtained and submitted at least one recommendation from a faculty member who has had that student in at least one class in the past 12 months. A student coordinating attorney is a pro-bono position involving exposure to real world situations, involving some aspect of public service, where a lawyer's expertise and insights will be called for and can be observed. Placement is restricted to the courses offered in all of the clinics offered at the law school. This position covers an entire semester (15 weeks during the spring and fall, and 10-12 weeks during the summer). For a two-credit student coordinating attorney position, the average work load must be no less than 8 hours per week in the fall and spring, or 10 hours per week in the summer. For a three-credit student coordinating attorney position, the average work load would be no less than 12 hours per week in the fall and spring, or 15 hours per week in the summer. Application required and must be completed in writing and delivered to the Faculty Supervisor no later than October 15 of the preceding semester for a spring semester student coordinating attorney position, no later than March 15 for a summer or fall semester student coordinating attorney position.

**LAWW 648V. Special Topics (Skills) (Sp, Su, Fa). 1-3 Hour.**

Special Topics (Skills) is a course where "class names" allow for a menu of course titles that provide substantial instruction in professional skills related to the responsibilities which lawyers are called upon to meet such as trial and appellate advocacy, alternative methods of dispute resolution, counseling, interviewing, negotiating, problem solving, factual investigation, organization and management of legal work, drafting, and analytical processes for applying those skills in ethical fashion. May be repeated for up to 15 hours of degree credit.

**LAWW 6493. Law and Psychology (Irregular). 3 Hours.**

This course covers key aspects of the relationship between law and psychology. Examples include: the regulatory effect on clinical practice of statutes, administrative regulations, and court decisions; and the influence of psychological expertise on legal decision-making through expert testimony in trial courts and amici briefs in appellate courts, testimony before legislative and administrative bodies, publication of research results, and provision of clinical services to correctional populations and public service occupations.

**LAWW 650V. International Externship (Irregular). 1-5 Hour.**

International Externships are experiences available in the summer to students having completed 30 hours toward the JD degree. Students work variable hours and weeks, in law offices, non-profit/ public interest/government agencies dealing with international matters. By participating in/observing various tasks, students are exposed to international legal practice and issues of professional responsibility in an international context. There is a Field and an Academic Component to this course. May be repeated for up to 10 hours of degree credit.

**LAWW 6513. Immigration Law and Policy (Irregular). 3 Hours.**

Study of immigration and nationality, including exclusion and deportation; political asylum and refugee status; visa allocation and distribution; labor certification; and naturalization and citizenship. It is recommended that Administrative Law be taken first.

**LAWW 6523. Employment Law (Irregular). 3 Hours.**

An overview of the law governing various aspects of the employment relationship, both statutory and common law. Covers the establishment and parameters of employment, the security of the worker, employer's rights, and terminations.

**LAWW 654V. Public Interest Externship (Sp, Su, Fa). 1-3 Hour.**

Public Interest Externships are experiences available to students having completed 30 hours toward the JD degree. Students work part-time -- 12 hours/week over 14 weeks (variable in summer) -- serving an underprivileged population in traditional and non-traditional public service and public interest sectors. By participating in/ observing various tasks, students develop legal and professional skills appropriate to various areas and types of law. There is a Field and an Academic Component to this course. May be repeated for up to 12 hours of degree credit.

**LAWW 6553. Arbitration Skills (Irregular). 3 Hours.**

This course explores the practical as well as the legal problems presented by the use of alternative dispute resolution (ADR) to resolve disputes, with an emphasis on employment. While other areas of ADR will be touched upon, such as mediation and peer-review, the primary focus of the course will be on arbitration as the means to resolve problems in the workplace and commercial context generally. The course provides instruction and practice (through a variety of simulations) assessing all aspects of arbitration, including when/whether to arbitrate, selecting the arbitrator, conducting an arbitration, and post-hearing issues. Students will become familiar with the most common techniques and strategies that lawyers use in employment arbitration, and should be better prepared to represent your client's interests in that proceeding.

**LAWW 6562. Legal Clinic: Advanced Immigration (Sp, Fa). 2 Hours.**

The Advanced Immigration Law Clinic allows students to obtain an additional 2 credits of experience. Only students who have completed the Immigration Law Clinic may take the Advanced course in a subsequent semester. The Clinic provides opportunities for students preparing for a career in immigration law by developing skills that are critical in legal practice through an experiential learning model. The Clinic allows for continuity in cases, as well as opportunities to handle more advanced and diverse cases. The Clinic is offered to 2-3 students per semester. Each will receive 2 credits. Students are expected to work approximately 4 hours per credit hour, per week, including work done for class preparation, group work, individual meetings, and representation. Students are chosen through an application process including a brief statement on interest in Immigration Law and goals for study in the Advanced Clinic. Prerequisite: LAWW 6364.

**LAWW 660V. Government Externship (Sp, Fa). 1-3 Hour.**

Government Externships are experiences available to students having completed 30 hours toward the JD degree. Students work part-time -- 12 hours/week over 14 weeks (variable in summer) -- alongside government attorneys, exposing students to legal issues and practice in government agencies. By participating in/ observing various tasks, students develop legal and professional skills appropriate to government work. There is a Field and an Academic Component to this course. May be repeated for up to 12 hours of degree credit.

**LAWW 6613. Bankruptcy (Irregular). 3 Hours.**

Study of insolvency law, with particular emphasis on federal bankruptcy law.

**LAWW 6633. Criminal Procedure II (Irregular). 3 Hours.**

This course focuses on prosecuting crime. Principal topics include: the prosecutor's decision to charge, the role of defense counsel, initial appearance, bail and pretrial release, grand juries and preliminary hearings, discovery, guilty pleas and plea bargaining, speedy trial, double jeopardy, trials and pretrial motions, sentencing and post-conviction remedies.

**LAWW 6702. Copyright Law (Sp, Su, Fa). 2 Hours.**

The nature of the rights, acquisition and enforcement, and property and contract interests in copyrights.

**LAWW 671V. Judicial Externship (Sp, Su, Fa). 1-3 Hour.**

Judicial Externships are experiences available to students having completed 30 hours toward the JD degree. Students work part-time - 12 hours/week over 14 weeks (variable in summer) - in judicial chambers, exposing students to the court system and the adjudication of cases from the judge's perspective. By observing proceedings/engaging in research/judicial writing, students develop legal and professional skills appropriate to litigation. There is a Field and an Academic Component to this course. May be repeated for up to 12 hours of degree credit.

**LAWW 673V. Criminal Defense Externship (Irregular). 1-3 Hour.**

Criminal Defense Externships are experiences available to students having completed 30 hours toward the JD degree. Students work part-time -- 12 hours/week over 14 weeks (variable in summer) -- alongside Public Defenders, exposing students to criminal law and strategy from the defense perspective. By participating in/observing various tasks, students develop legal and professional skills appropriate to criminal defense world. There is a Field and an Academic Component to this course. May be repeated for up to 12 hours of degree credit.

**LAWW 676V. Capstone Externship (Irregular). 1-12 Hour.**

Capstone Externships are experiences available to students having completed 60 hours toward the JD degree. These full-time externships place students alongside working attorneys in any one of the externships below -- 35-40 hours/week over 15 weeks (10-12 weeks in summer) -- exposing students to greater responsibility and more in-depth projects. There is a Field and an Academic Component to this course. May be repeated for up to 12 hours of degree credit.

**LAWW 6814. Corporate Counsel Externship (Irregular). 4 Hours.**

Externs work with a supervising attorney in a corporate counsel's office. In Fall and Spring semesters each extern works 16 hours per week (average minimum), and in Summer the extern shall work at least 20 hours per week during the 12-week term; keeps a journal, and meets at least 3 times with the faculty supervisor. Prerequisite: LAWW 4294 and LAWW 5013 and approval of the faculty supervisor.

**LAWW 681V. Legislative Externship (Irregular). 2-3 Hour.**

Legislative Externships are experiences available to students having completed 48 hours toward the JD degree. Students work part-time - 8 or 12 hours/week over 14 weeks (variable in summer) - in legislative offices, exposing students to the legislative role and process. By observing/participating in various tasks, students develop legal and professional skills appropriate to the legislative branch. There is a Field and an Academic Component to this course. May be repeated for up to 12 hours of degree credit.

**LAWW 6822. Patent Law (Irregular). 2 Hours.**

Study of the patent system of the United States, including conditions for a valid patent, procedures of the patent office, and litigation relating to patents. Not offered every year.

**LAWW 683V. Criminal Prosecution Externship (Irregular). 1-3 Hour.**

Criminal Prosecution Externships are experiences available to students having completed 30 hours toward the JD degree. Students work part-time -- 12 hours/week over 14 weeks (variable in summer) -- alongside prosecutors, exposing students to criminal law and strategy from the prosecutorial perspective. By participating in/observing various tasks, students develop legal and professional skills appropriate to criminal prosecution. There is a Field and an Academic Component to this course. May be repeated for up to 12 hours of degree credit.

**LAWW 6843. Legal Clinic: Advanced Civil Litigation and Advocacy Clinic (Irregular). 3 Hours.**

The advanced clinic is a 3-credit course offered after a student has successfully completed the Civil Litigation and Advocacy Clinic. Students who wish to continue work on existing cases or work on more complex clinic matters, may apply to enroll. Prerequisite: LAWW 6924.

**LAWW 686V. Corporate Counsel Externships (Irregular). 1-4 Hour.**

Corporate Counsel Externships are experiences available to students having completed 30 hours toward the JD degree. Students work part-time -- 16 hours/week over 14 weeks (variable in summer) -- alongside attorneys in traditional legal departments/non-traditional business-compliance areas, exposing students to legal issues facing these attorneys daily. By observing/participating in various tasks, students develop legal and professional skills appropriate to corporations. There is a Field and an Academic component to this course. May be repeated for up to 12 hours of degree credit.

**LAWW 6873. Legal Clinic: Advanced Transactional Clinic (Irregular). 3 Hours.**

Students who have successfully completed the Transactional Clinic in the fall or spring semester may enroll for 3 hours of graded credit in the Advanced Transactional Clinic in any subsequent semester. Students will be assigned a normal client load during both semesters. In the summer students may enroll in Transactional Clinic and Advanced Transactional Clinic during the same term. Students will be assigned to provide legal representation to qualified nonprofit organizations under the supervision of a faculty member. Students will have the opportunity interview and counsel nonprofit entities and perform a number of transactional legal services for corporate clients including: drafting bylaws, preparing and filing articles of incorporation, completing and submitting applications for tax exempt status with state and federal tax agencies; and preparing and filing articles of dissolution. Admission to Advanced Clinic in connection with any of the eligible clinic courses is limited and by approval of the faculty member. Prerequisite: Qualification for Rule XV practice.

**LAWW 6913. Environmental Law (Irregular). 3 Hours.**

Devoted primarily to the legal problems related to the environment. Included is consideration of environmental impact in public and private decision making.

**LAWW 6924. Legal Clinic: Civil Litigation and Advocacy Clinic (Sp, Fa). 4 Hours.**

Students will represent low-income clients seeking to enforce their rights in civil matters. Under close faculty supervision, students will develop and refine their ability to effectively and ethically practice law. Students will handle all aspects of client representation, including interviewing and counseling, fact investigation and discovery, negotiation, and court appearances. Students will also participate in a weekly seminar and may have the opportunity to engage in other forms of advocacy. Cumulative GPA of 2.00, successful completion of 48 semester hours, including Civil Procedure I and II, Criminal Procedure, Evidence, and Professional Responsibility, and qualifying for Rule XV practice. Prerequisite: LAWW 4173, LAWW 5013 and LAWW 6093.

**LAWW 6943. Public International Law (Irregular). 3 Hours.**

Principles of international law involving relations among government. The function of international tribunals and organizations.

**LAWW 697V. Legal Clinic: Advanced Federal Practice (Sp, Fa). 2-3 Hour.**

Legal Clinic: Advanced Federal Practice provides opportunities for students preparing for a career in consumer bankruptcy law by developing skills that are critical in legal practice through an experiential learning model. The Advanced Federal Practice Clinic will allow for continuity in cases, as well as opportunities to handle more advanced and diverse cases. Offered to 2-3 students each semester, students enrolled in this course must have taken Federal Practice Clinic, gaining basic knowledge of bankruptcy law and procedure. Students are expected to work approximately 4 hours per credit hour, per week, including work done for class preparation, group work, individual meetings, and representation. Students are chosen through the application process. Prerequisite: LAWW 6374.

**LAWW 7012. Juvenile Justice Seminar (Irregular). 2 Hours.**

Examines procedural and substantive law in the context of the distinctive goals, structure, and procedure of the Juvenile Court. Special attention is given to alternative ways of dealing with two categories of juveniles, i.e., status offenders who are within the jurisdiction of the court although not accused of criminal conduct, and youthful offenders who commit serious crimes.

**LAWW 7031. Regulation of Livestock Marketing and Sales (Sp). 1 Hour.**

Study of the regulation of livestock and poultry sales under the Packers and Stockyards Act, with a particular focus on production contracting, mandatory price reporting, industry concentration, and antitrust issues.

**LAWW 7042. Federal Regulation of Food Labeling (Fa). 2 Hours.**

Study of the federal laws regarding the labeling of food, considering both FDA and USDA regulation. The course includes the study of nutrition labeling, health claims, advertising issues, and efforts to curb the obesity epidemic through educational labeling.

**LAWW 706V. Sports Law (Irregular). 2-3 Hour.**

The major topics covered include significant contract issues, tort liability involving participants, institutions, physicians and equipment manufacturers, criminal liability, drug testing, constitutional and related issues dealing with sports associations and Title 9 and gender equity issues. Other relevant topics may also be covered if possible.

**LAWW 7071. Agricultural Cooperatives and Local Food Systems (Irregular). 1 Hour.**

Introduction to the legal structure of a cooperative and examination of the recent use of the cooperative model in encouraging local and regional food systems.

**LAWW 7073. Mediation in Practice (Irregular). 3 Hours.**

This three-credit course will train students to mediate disputes assigned to the Northwest Arkansas Dependency-Neglect/Families In Need of Services Mediation Project by the juvenile court. In the first five weeks of the semester, students will be introduced to basic mediation theory, procedures, and ethical constraints; communication techniques; juvenile law; and operation of the child welfare system in Arkansas. This training will include lectures, discussion, and simulation exercises. In the remaining weeks of the semester, students will receive additional information and simulation practice, and they will also observe and participate in the mediation of actual cases assigned to the Project.

**LAWW 708V. Selected Issues in Agricultural and Food Law (Sp). 1-3 Hour.**

Specialized study of one or more current issues in agricultural and food law, regulation, and policy.

**LAWW 709V. Agricultural Bankruptcy (Even years, Sp). 1-2 Hour.**

Examination of bankruptcy law as applied to agricultural operations, including Chapter 12 - Family Farmer Reorganization. No prior knowledge of bankruptcy is required.

**LAWW 710V. Agricultural Biotechnology (Irregular). 1-2 Hour.**

Study of the regulation of agricultural biotechnology, including the approval process for new technologies, the patenting of new products and technologies, and the restrictions associated with their use.

**LAWW 7111. Introduction to Agricultural Taxation (Irregular). 1 Hour.**

Overview of federal income tax law as applied to agricultural operations.

**LAWW 713V. Agricultural Water Law (Sp). 1-2 Hour.**

Study of the basic legal principles applicable to water rights through consideration of water rights for agricultural use.

**LAWW 714V. The Right to Food (Irregular). 1-3 Hour.**

Is the right to adequate food recognized as a human right under international law? Should the right to adequate food be recognized as a human rights? How is the human right to adequate food defined & implemented? What are the core elements of the right to adequate food? What is the scope of this right? What are the present and future threats to the right to food? How are individuals & communities whose right to food are compromised fighting back? This course introduces the principle & concept of the human right to adequate food and its practical application and implications.

**LAWW 7211. Energy Policy and Agriculture (Irregular). 1 Hour.**

Survey of the legal dimensions of various energy issues occurring on agricultural lands and in rural areas, including wind power, solar power, ethanol production, power line transmission, and fracking.

**LAWW 7231. Specialized Legal Research and Writing (Fa). 1 Hour.**

Legal writing skill development, including training in plain-English legal writing, electronic research training, and publication strategies.

**LAWW 7243. Health Law (Irregular). 3 Hours.**

An examination of the role of the law in determining access to and regulation of the quality of services provided by the health care industry.

**LAWW 726V. Farmed Animal Welfare Law and Policy (Irregular). 1-2 Hour.**

Examination of the legal issues involved in determining welfare standards for animals raised for food. In addition to introducing federal animal welfare and humane slaughter laws, state referenda, state law standards, and so-called "ag gag" laws are studied.

**LAWW 727V. Food Safety Litigation (Fa). 1-2 Hour.**

Examination of food borne illness litigation with an initial introduction to food product liability followed by the study of actual cases brought against food manufactures.

**LAWW 7312. Agricultural Perspectives (Sp). 2 Hours.**

Agriculture has a rich and varied history, and today's issues are often best understood in the context of this history. This course examines a wide range of social and economic issues, considering their origin and how history is reflected in today's policies. The course includes a series of documentaries.

**LAWW 7321. Agricultural Policy and the Federal Budget (Fa). 1 Hour.**

Study of the impact of the Office of Management and Budget and the cost scoring system on federal agricultural policy making in Washington, D.C. Current farm policy issues are discussed within the context of budgetary constraints and pressures.

**LAWW 740V. Federal Farm Programs and Crop Insurance (Fa). 1-2 Hour.**

Survey of the complex network of federal farm programs and federal crop insurance programs that are available to U.S. producers.

**LAWW 741V. Food, Farming and Sustainability (Fa). 1-3 Hour.**

Survey of the complex legal topics that make up the body of agricultural and food law focusing on current issues of significance.

**LAWW 742V. Global Food Security (Irregular). 1-2 Hour.**

Survey of the role of law and policy in affecting problems of global food security in the face of increasing population, changing diets, environmental pressures, and climate change.

**LAWW 744V. Selected Issues in International Food and Agriculture (Sp). 1-3 Hour.**

Specialized study of one or more selected legal/policy issues related to international agriculture and food systems.

**LAWW 7511. Introduction to the Law of Food and Agriculture (Fa). 1 Hour.**

Orientation course that provides an overview of the legal and policy issues presented by the production of food and fiber, including a discussion of structural changes in agriculture, sustainability issues, and trends in consumer interest.

**LAWW 760V. Bankruptcy - Business Reorganizations (Irregular). 2-3 Hour.**

Examines the rules and tactics governing the reorganization of a struggling business or farm under Chapter 11 of the Bankruptcy Code. Students will reorganize a hypothetical failing business as a part of the course.

**LAWW 7612. Advanced Consumer Bankruptcy (Irregular). 2 Hours.**

Study of recent developments in the law of bankruptcy as it applies to consumer and non-consumer transactions.



**LAWW 762V. Legal Issues: Indigenous Food and Agriculture (Irregular). 1-2 Hour.**

Overview of the legal, historic, social, and economic issues important to sustainable food and agriculture development in Indian Country. It features in-depth discussion of historic and emerging issues including land use challenges, tribal food and agriculture code development, and barriers to effective agriculture development.

**LAWW 763V. Regulated Markets in Agriculture (Sp). 1-2 Hour.**

Study of the economic regulation of specific sectors of the agricultural industry focusing on perishable agricultural commodities (fruits and vegetables), and dairy products. Included is the study of formal and informal administrative review.

**LAWW 764V. Practicum in Agricultural & Food Law (Sp, Su, Fa). 1-4 Hour.**

This experiential course provides LL.M. candidates with an opportunity to work with agencies, advocacy organizations, businesses, and others engaged in agricultural & food law practice and policy throughout the country. Work can be performed on-site or via distance. Prerequisite: Only available to students admitted to the LL.M. Program.

**LAWW 765V. Intellectual Property Issues in the Food & Agricultural Sector (Irregular). 1-3 Hour.**

This course offers an overview of the key IP issues in food and agriculture. The focus is on five types of IP - Trademarks, Trade Secrets, Geographical Indicators (GIs), Copyrights, and Patents. The course will introduce students to IP law (domestic, regional and global) and will look at the expansion of IPRs in food and agriculture.

**LAWW 7662. American Indian Law (Irregular). 2 Hours.**

Study of the domestic federal law of the United States as it applies to Native Americans and their tribes. The general concept of tribal self-determination is the unifying theme of the course. Particular topics include tribal sovereignty and government; American Indian civil rights; administration of justice on and off the reservation; American Indian land claims; land, hunting, and fishing rights; water rights; American Indian health, education, and welfare; Bureau of Indian Affairs; state taxation; individual and tribal treaty rights; federal Indian policy; and zoning and environmental controls.

**LAWW 770V. Advanced Writing in Agricultural and Food Law (Sp). 1-4 Hour.**

Research in a specialized area of agricultural or food law and development of a paper that demonstrates rigorous legal analysis and quality legal writing.

**LAWW 771V. Independent Research in Agricultural and Food Law (Sp, Su, Fa). 1-2 Hour.**

Independent research in agricultural and food law conducted under the supervision of a faculty member.

**LAWW 7721. Administrative Process and Practice in Agricultural and Food Law (Fa). 1 Hour.**

Study of administrative law and practice in the specialized areas of agricultural and food law. Relevant regulatory agencies are introduced. Rulemaking, adjudication, and judicial review are covered.

**LAWW 7741. Urban Agriculture: Law and Policy (Irregular). 1 Hour.**

Study of the legal issues raised by the rising interest in urban agricultural activities. Topics of study include land use and zoning issues, farmers market issues, and legal issues associated with community sponsored agriculture.

**LAWW 776V. Agricultural Finance and Credit (Irregular). 1-3 Hour.**

Study of the legal issues surrounding the financing of agricultural operations, including credit availability, agricultural security issues under the Uniform Commercial Code, and debt restructuring opportunities. Special focus is on lending options offered by the Farm Service Agency and the Farm Credit System.

**LAWW 7773. Water Law (Irregular). 3 Hours.**

Study of real property principles governing ownership rights in water and the federal and state statutes controlling the use of water.

**LAWW 778V. Agricultural Labor Law (Sp). 1-2 Hour.**

Study of the legal, social, and economic issues that arise from the extensive use of migrant labor in U.S. agricultural operations. Topics include agricultural exemptions from labor laws, the Migrant & Seasonal Agricultural Worker Protection Act, and agriculture's reliance on undocumented alien workers.

**LAWW 781V. Local-Regional Food Systems and the Law (Irregular). 1-2 Hour.**

This course examines recent efforts to re-establish local and regional food systems and explores the attendant legal and policy issues.

**LAWW 782V. Food Justice: Law and Policy (Odd years, Fa). 1-2 Hour.**

Survey of the legal and policy issues raised by the food justice movement. Topics covered include food insecurity and poverty, public health concerns such as obesity, the economics of healthy eating, food deserts, and food waste. Each will be considered in light of the legal and governmental policy issues raised.

**LAWW 785V. Federal Nutrition Law and Policy (Irregular). 1-2 Hour.**

Study of federal nutrition policy, including the development of the federal nutrition standards, the framework for the food assistance programs, the federal school lunch program, and the government's efforts to encourage healthy eating. Prerequisite: LAWV 786V.

**LAWW 786V. Food Law and Policy (Irregular). 1-3 Hour.**

An introduction to the network of laws that govern our food system. An overview of regulation by both the Food & Drug Administration and the USDA is provided. Policy considerations are discussed in light of current issues.

**LAWW 7872. Federal Regulation of Food Safety (Fa). 2 Hours.**

Study of the federal laws that regulate food safety, considering the FDA authority under the Food, Drug and Cosmetic Act, as expanded by the Food Safety Modernization Act and USDA authority to regulate meat and poultry safety. Current issues and concerns are addressed.

**LAWW 7932. Environmental Regulation of Agriculture (Sp). 2 Hours.**

This course examines the major federal environmental statutes applicable to agricultural operations with attention to current cases and controversies under those laws. It also explores the regulatory authority and enforcement practices of the EPA and other agencies.

**LAWW 794V. Business, Human Rights, & Corporate Social Responsibility (Irregular). 1-3 Hour.**

Business has helped lift people around the world out of poverty. However, businesses can have a serious impact on human rights. This is true for businesses in the food and agricultural sector. Around the globe companies in all sectors are contributing to human rights abuses. With globalization, the proliferation of multinational corporations, and increase in the scale and volume of foreign direct investment, the situation appears to be getting worse. The course explores the business-human rights nexus with a particular focus on the food and agricultural sector and on case studies from around the world.

**LAWW 796V. Agriculture and the Environment (Fa). 1-3 Hour.**

Agriculture is increasingly criticized for its impact on the environment. This course examines the tensions between the desire to produce food and fiber efficiently and concern for sustainability and the protection of natural resources.

## Management (MGMT) Courses

**MGMT 2053. Business Foundations (Sp, Su, Fa). 3 Hours.**

This course surveys the areas of business and presents business processes that are common to most enterprises through a hands-on, interactive business experience. It reinforces the use of financial accounting for reporting the results of business operations, and introduces managerial accounting concepts and techniques for improving the quality business decisions. Prerequisite: ISYS 1120 or ISYS 1123 and ACCT 2013 each with a grade of "C" or better.

**MGMT 2103. Managing People and Organizations (Sp, Su, Fa). 3 Hours.**

Study of the process of acquiring and managing Human Capital, focusing on the organizational behavior, legal, economic, and technical issues concerned with business decisions about acquiring, motivating, and retaining employees; emphasis given to the development, implementation, and assessment of policies and practices consistent with legal, social, human, and environmental dynamics. Prerequisite: WCOB 2053 or ACCT 2023 and WCOB 1033 each with a grade of C or better.

**MGMT 2103H. Honors Managing People and Organizations (Sp, Su, Fa). 3 Hours.**

Study of the process of acquiring and managing Human Capital, focusing on the organizational behavior, legal, economic, and technical issues concerned with business decisions about acquiring, motivating, and retaining employees; emphasis given to the development, implementation, and assessment of policies and practices consistent with legal, social, human, and environmental dynamics. Prerequisite: WCOB 2053 or ACCT 2023 and WCOB 1033 with a grade of C or better. This course is equivalent to MGMT 2103.

**MGMT 3013. Strategic Management (Sp, Su, Fa). 3 Hours.**

Integrative study of managerial decisions; introduces students to an understanding of strategic competitiveness and the way in which business strategy is formulated and implemented; uses a combination of theoretical and applied approaches to analyzing key business decisions, implementing these decisions, and monitoring their effects. Prerequisite: ISYS 1120 or ISYS 1123, ACCT 2013, ACCT 2023 or WCOB 2053, WCOB 1033, ECON 2013, ECON 2023, MATH 2053 or MATH 2564, MATH 2043 or MATH 2554, COMM 1313, BLAW 2013, ISYS 2103, SCMT 2103, MGMT 2103, FINN 3043 and MKTG 3433 each with a grade of C or better.

**MGMT 3013H. Honors Strategic Management (Sp, Su, Fa). 3 Hours.**

Integrative study of managerial decisions; introduces students to an understanding of strategic competitiveness and the way in which business strategy is formulated and implemented; uses a combination of theoretical and applied approaches to analyzing key business decisions, implementing these decisions, and monitoring their effects. Prerequisite: WCOB 1120 or ISYS 1123, ACCT 2013, ACCT 2023 or WCOB 2053, WCOB 1033, ECON 2013, ECON 2023, MATH 2053 or MATH 2564, MATH 2043 or MATH 2554, COMM 1313, BLAW 2013, ISYS 2103, SCMT 2103, MGMT 2103, FINN 3043 and MKTG 3433 each with a grade of C or better. This course is equivalent to MGMT 3013.

**MGMT 3563. Management Concepts and Organizational Behavior (Irregular). 3 Hours.**

Business students may not receive credit for this course. Course introduces students to fundamental concepts of management practice with particular emphasis on managing human behavior in organizations. Addresses the planning, organizing, directing, and controlling functions performed by managers as these functions relate to managing human resources. Provides survey of critical management concepts; enables students to develop analytical and problem solving skills through case studies and experimental exercises. Students may not receive credit for both WCOB 2033 or MGMT 2103 and MGMT 3563. Walton College majors are not eligible to register for the course. No degree credit for Walton College majors.

**MGMT 3653. A Competitive Advantage: Creating and Leading a Diverse Workforce (Irregular). 3 Hours.**

Study of the process of creating and leading a diverse workforce, focusing on the knowledge and skills necessary for creating a culture that embraces and makes diversity work; examines the many dimensions of diversity with emphasis on understanding the range of cultural behaviors and expectations, cultural communication, and building diverse work teams. Special attention will be given to developing talent management competencies, such as recruiting, coaching, mentoring, career development, and evaluating and measuring the effects of diversity initiatives. Prerequisite: Junior standing.

**MGMT 3933. Entrepreneurship and New Venture Development (Sp, Fa). 3 Hours.**

The role of the entrepreneur in starting up new businesses. Identification of new venture opportunities and the evaluation of their feasibility.

**MGMT 4003H. Honors Management Colloquium (Fa). 3 Hours.**

Explores events, concepts and/or new developments in the field of Management. Prerequisite: Senior standing. May be repeated for degree credit.

**MGMT 4103. Special Topics in Management (Irregular). 3 Hours.**

Explores trends, concepts, and important developments in management as they impact on organizational performance. Topics are selected by the Management Department faculty for each semester the course is offered. May be repeated for degree credit.

**MGMT 4103H. Honors Special Topics in Management (Irregular). 3 Hours.**

Explores trends, concepts, and important developments in management as they impact on organizational performance. Topics are selected by the Management Department faculty for each semester the course is offered. May be repeated for degree credit.

This course is equivalent to MGMT 4103.

**MGMT 4243. Ethics and Corporate Responsibility (Sp, Fa). 3 Hours.**

A comprehensive and critical examination of traditional and current ethical theories and approaches that guide business decision-making, ethical issues that affect business decisions, and ethics related to the various business disciplines.

**MGMT 4253. Leadership (Sp, Fa). 3 Hours.**

This course offers a foundation for understanding and evaluating organizational leadership. It is designed to assist students in developing frameworks for understanding and enacting leadership. This course examines topics such as the nature and foundation of the leader-follower relationship, models that explain effective leadership, and the interface of leadership with gender, ethics, and culture. Prerequisite: WCOB 2033 or MGMT 2103 or MGMT 3563.

**MGMT 4263. Organizational Change and Development (Sp, Fa). 3 Hours.**

This course will develop diagnostic and intervention skills that can be applied to identifying and overcoming problems of morale and productivity in organizations. A variety of behavioral methods will be covered. Prerequisite: WCOB 2033 or MGMT 2103 or MGMT 3563.

**MGMT 4433. Small Enterprise Management (Sp). 3 Hours.**

Small enterprise opportunities and problems emphasizing innovation, management planning and control, financing, marketing and legal requirements. Emphasis on application of management knowledge to small enterprise management. Prerequisite: MGMT 3933.

**MGMT 450V. Independent Study (Irregular). 1-3 Hour.**

Permits students on individual basis to explore selected topics in management. May be repeated for up to 3 hours of degree credit.

**MGMT 4583. International Management (Sp, Fa). 3 Hours.**

Develops an understanding of international business management and the cultural environments in which IB exists today. Students examine international business practices and learn about unique elements of business as it practiced in selected nations and diverse cultures.

**MGMT 4943. Organizational Staffing (Sp, Fa). 3 Hours.**

In-depth study of theoretical, legal, methodological, and substantive issues related to selection, performance appraisal, and development of employees. Students participate in individual and group projects designed to provide theoretical and practical skills related to staffing. Prerequisite: WCOB 1033.

**MGMT 4953. Organizational Rewards and Compensation (Sp, Fa). 3 Hours.**

Develops an understanding of reward systems theory and its application to the design of compensation systems. Provides theoretical and legal background and practical applications for the use of reward systems in attracting, motivating, and retaining employees. Prerequisite: WCOB 1033.

**MGMT 4993. Entrepreneurship Practicum (Sp, Su, Fa). 3 Hours.**

Hands-on management of an actual on-going business. Students will gain experience working in, making decisions about, and managing a business. Topics covered include accounting, economics, finance, information systems, law, logistics, management, and marketing. Entrance by application only. May be repeated for up to 6 hours of degree credit.

**MGMT 5213. Business Foundations for Entrepreneurs (Sp). 3 Hours.**

Introduction to the fundamental business concepts an entrepreneur needs to know to evaluate and launch a successful new venture. Topic areas include recruitment, selection, motivation and management of employees, market analysis and the marketing mix, financial strategies and accounting for funds, economic considerations, and the management of operations. Prerequisite: Graduate standing.

**MGMT 5223. Managing & Leading Organizations (Fa). 3 Hours.**

Management for a global environment. The class will cover interpersonal workplace skills such as leadership and motivation, along with the management of human capital through well designed recruitment, selection, performance evaluation, compensation, and quality control systems. May be repeated for degree credit.

**MGMT 5313. Strategic Management (Su). 3 Hours.**

Strategy formulation, strategy implementation, and other topics related to the long-term success of the firm. Includes role of the general manager, international issues, and the impact of management fads on decision making.

**MGMT 5323. New Venture Development (Fa). 3 Hours.**

Focuses on the identification and analysis of new venture opportunities and how entrepreneurs acquire the human and financial resources needed to develop successful businesses. Topics include market analysis, development of products and services, negotiation, developing and executing business plans, and new venture financing. Students are required to complete summer assignments before the course begins in the fall semester. Prerequisite: MGMT 5213 or an undergraduate degree in business or permission of the instructor.

**MGMT 5363. Innovation & Creativity (Sp). 3 Hours.**

This class will provide a framework for developing, assessing and implementing innovations in start-ups and established businesses. Focus is on creative decision making, managing for innovation, strategic analysis of innovations, and implementation of innovations. Aimed at entrepreneurs, brand managers, and managers in industries where innovation is a key strategic capability.

**MGMT 5373. Global Business (Su). 3 Hours.**

Integrated overview of the global business environment and the organizational challenges of a multinational firm. To enhance understanding of the business and cultural environment of prominent emerging markets, the course includes a 2-3 week overseas immersion project to fulfill a predefined goal. Project is integrated with global content upon return.

This course is cross-listed with ECON 5373.

**MGMT 5602. Introduction to Strategy (Fa). 2 Hours.**

An introduction to the value chain concept, the underlying framework of the Managerial MBA program. Topics include the primary value chain activities of inbound logistics, operations, outbound logistics, marketing and sales, and service, as well as the support activities of procurement, technology development, human resource management and firm infrastructure.

**MGMT 5613. Leadership and Organizational Behavior (Su). 3 Hours.**

Managing in a global workforce, including human resource issues, motivation, performance evaluation, quality concepts, transformational leadership, and selection/recruitment/ development of employees.

**MGMT 5993. Entrepreneurship Practicum (Sp, Su, Fa). 3 Hours.**

Hands-on management of an actual on-going business. Students will gain experience working in, making decisions about, and managing a competitive business. Students will be required to analyze the business in a term paper or other integrative assignment. Entrance by application only.

**MGMT 6011. Graduate Colloquium (Sp, Fa). 1 Hour.**

Presentation and critique of research papers and proposals. May be repeated for degree credit.

**MGMT 6113. Seminar in Organizational Behavior (Irregular). 3 Hours.**

Survey of theoretical and empirical literature in organizational behavior. Stresses critical evaluation of current writing in the field and its integration with prior research. Covers topics relating to motivation, individual differences, job attitudes, social influence processes, and group dynamics. Prerequisite: Admission to a Ph.D. program.

**MGMT 6123. Seminar in Organization Theory (Irregular). 3 Hours.**

This Ph.D.-level seminar presents an overview and introduction into organization theory literature. Emphasis on the development of relevant schools of thought, changes in the content of the traditional or 'mainstream' themes, current topics, schools of thought, and future directions are examined. Prerequisite: Admission to a Ph.D. program.

**MGMT 6133. Seminar in Strategy Research (Irregular). 3 Hours.**

This Ph.D.-level seminar presents an overview and introduction into the strategic management literature. Emphasis on both the content and process of the extant research. Relevant theory, methods, 'mainstream' themes, current topics, schools of thought, and future directions are examined. Prerequisite: Admission to a Ph.D. program.

**MGMT 6213. Seminar in Research Methods (Irregular). 3 Hours.**

Familiarizes students with the principles and techniques underlying research in management and organizations. Issues of basic philosophy of science and research methods are covered. Special attention given to the practical problems of research design, measurement, data collection, sampling, and interpretation in conducting research in management and in organizations. Prerequisite: Admission to a Ph.D. program.

**MGMT 6223. Seminar in Management Topics (Irregular). 3 Hours.**

Seminar in special research topics in management. Topics vary depending upon instructor. Prerequisite: Admission to a Ph.D. program. May be repeated for up to 3 hours of degree credit.

**MGMT 6233. Seminar in Human Resource Management (Irregular). 3 Hours.**

Provides an overview of major issues in human resource management. Designed to familiarize students with the seminal research in human resource management, and to provide them with the conceptual and methodological tools necessary to do research in the area. Prerequisite: Admission to a Ph.D. program.

**MGMT 636V. Special Problems in Management (Sp, Fa). 1-6 Hour.**

Individual reading and research. May be repeated for up to 6 hours of degree credit.

**MGMT 700V. Doctoral Dissertation (Sp, Fa). 1-18 Hour.**

Doctoral Dissertation. Prerequisite: Candidacy. May be repeated for degree credit.

## Marketing (MKTG) Courses

**MKTG 3433. Introduction to Marketing (Sp, Su, Fa). 3 Hours.**

Examines strategies, tactical, and operational decisions related to contemporary marketing activities. Topics covered include product, services and international strategies in consumer and business markets. Prerequisite: (ECON 2013 and ECON 2023) or (ECON 2143) and WCOB 1033, each with a grade of C or better. This course is cross-listed with MKTG 3433H.

**MKTG 3433H. Honors Introduction to Marketing (Sp, Su, Fa). 3 Hours.**

Examines strategies, tactical, and operational decisions related to contemporary marketing activities. Topics covered include product, services and international strategies in consumer and business markets. Prerequisite: (ECON 2013 and ECON 2023) or (ECON 2143) and WCOB 1033 each with a grade of C or better. This course is cross-listed with MKTG 3433.

**MKTG 3553. Consumer Behavior (Sp, Fa). 3 Hours.**

Analyzes consumer motivation, buying behavior, market adjustment, product innovation and adaptation; consumer market measurement, including survey of economic, behavioral science theories of consumer market behavior, producer and intermediary reactions. Consumer decision making is evaluated as to psychological drives, sociological concepts used by producers, channel intermediaries, consumers; considers methods, techniques for measuring consumer behavior, and analyzing consumer markets. Prerequisite: MKTG 3433.

**MKTG 3633. Marketing Research (Sp, Fa). 3 Hours.**

Research designs, techniques, and analyses of primary and secondary data for the purposes of (1) developing market forecasts and segmentation analyses; (2) strategy implementation determining product development, pricing, distribution, and promotion decisions; and (3) monitoring customer attitudes, motivations and satisfaction. Prerequisite: MKTG 3433.

**MKTG 3653. Category Management Topics (Irregular). 3 Hours.**

This course exposes new majors in Marketing and Supply Chain Management to the current thinking of management and supply chain professionals in consumer packaged goods (CPG) and the tools to determine consumer demand in the CPG industry. Corequisite: MKTG 3433. Prerequisite: SCMT 2103.

**MKTG 4003H. Honors Marketing and Transportation Colloquium (Fa). 3 Hours.**

Explores events, concepts and/or new developments in the field of Marketing and/or Transportation. Prerequisite: Senior standing.

**MKTG 4103. Marketing Topics (Irregular). 3 Hours.**

Special topics in marketing not available in other courses. Topics are selected by the Marketing faculty for each semester each course is offered. Prerequisite: MKTG 3433. May be repeated for up to 6 hours of degree credit.

**MKTG 4233. Integrated Marketing Communications (Sp, Fa). 3 Hours.**

The theory, knowledge, and application relevant to the coordination of marketing communications including advertising, personal selling, sales promotion, public relations, and publicity. Prerequisite: MKTG 3433.

**MKTG 4343. Selling and Sales Management (Sp, Fa). 3 Hours.**

Examines how organizations and individuals communicate value and obtain desired results through the process of personal selling and customer relationship management, along with the role of sales management in the development of people and resource utilization within the firm. Prerequisite: MKTG 3433.

**MKTG 4433. Retail Strategy (Sp, Fa). 3 Hours.**

Concentrates on planning to meet the objectives and satisfy the retail marketing concept. Attention is devoted to retail format, competition among retail institutions, determination of store location, merchandise lines, atmospherics, and levels of customer service provided with the sale of consumer products. Prerequisite: MKTG 3433.

**MKTG 4443. Retail Buying and Merchandise (Sp, Fa). 3 Hours.**

Examination of supplier and buyer responsibilities and decisions associated with product assortment depth, budgets, promotions, inventory investment and control, and gross margin management for consumer goods including apparel, food, and durables. Prerequisite: MKTG 3433.

**MKTG 450V. Independent Study (Irregular). 1-3 Hour.**

The Marketing Independent Study course permits students on an individual basis to explore select topics in Marketing and Retail. Independent study projects will explore topics relevant for marketing and retail that typically are not covered in the existing curriculum. Prerequisite: Junior standing.

**MKTG 4513. Nonprofit Marketing (Sp, Fa). 3 Hours.**

This course is designed to give students a deeper understanding of marketing in the nonprofit sector, how it functions and how nonprofit marketing differs from traditional for profit marketing through leadership opportunities. Students will work with local nonprofits on various marketing projects throughout the semester. The class will use a service learning model of instruction where students take a leadership role in project development and execution. Prerequisite: MKTG 3433.

**MKTG 4633. Global Marketing (Sp, Fa). 3 Hours.**

Examines differences in global environment; how cultural considerations, political, legal, and economic conditions affect market entry strategies and marketing mix decisions; development of marketing plan for global environments. Prerequisite: MKTG 3433.

**MKTG 4853. Marketing Management (Sp, Fa). 3 Hours.**

Strategic planning and management of the marketing function within the firm from a managerial viewpoint. Focus on the development and management of marketing strategies and tactics related to product, pricing, promotion, and distribution decisions. Prerequisite: MKTG 3633 and MKTG 3553.

**MKTG 5103. Retail Consumer Marketing (Sp). 3 Hours.**

Introduction to marketing concepts and practices as applied to the retail consumer environment. Focuses on the strategic development, positioning, and management of products, promotion, distribution, pricing, and store environments in building customer relationships from retailer and supplier perspectives. (Core). May be repeated for degree credit.

**MKTG 5223. Marketing (Fa). 3 Hours.**

Product management, market research, marketing communications, retailing and distribution, consumer behavior, and social and ethical implications of marketing.

**MKTG 5333. Retailing Strategy and Processes (Sp). 3 Hours.**

Strategic planning and operation of retailing organizations. Investigation of the various types of retailing with emphasis on both the strategic and functional aspects in retail processes.

**MKTG 5433. Consumer and Market Research (Fa). 3 Hours.**

Modern marketing research methods and analyses applied to consumers, shoppers, and buyers of goods and services sold in competitive retail environments. Attention is given to both quantitative and qualitative methods, analyses, interpretation, and decision making. Prerequisite: MKTG 5103.

**MKTG 5533. Strategic Category Management (Su). 3 Hours.**

Strategic planning and management of brands and product categories from both manufacturing and retailing perspectives. Focus is on the product brand development, pricing, distribution, and promotion of brands and their strategic and functional roles in the product mix.

**MKTG 5543. Category Analysis and Management (Irregular). 3 Hours.**

Analysis and management of brands and product categories from supplier and retailing strategic perspectives. Focus is on brand and category strategic and functional roles in the merchandising mix as well as their development, pricing, distribution, promotion, and in-store placement. May be repeated for degree credit.

**MKTG 5553. Shopper, Buyer, and Consumer Behavior (Fa). 3 Hours.**

Behavioral and social science concepts applied to retail shoppers, buyers, and consumers of products and services. Attention is given to research on the cognitive, affective, and experiential aspects involved in the acquisition, consumption, and disposal of products and services by individuals and households. Prerequisite: MKTG 5103.

**MKTG 5563. Contemporary Topics in Retail (Sp). 3 Hours.**

The purpose of this course is to investigate the changing landscape of the retail industry. It should be noted that "retail" is an incredibly broad topic covering everything from consumer insights to supply chain to sales management. Retail is currently experiencing somewhat of a revolution as companies experiment with new technology, innovative ways to make shopping more enjoyable, or ways of engaging the customer in a way they are not likely to forget. This course will be based on identification and discussion of new trends that emerge in the retail environment. Prerequisite: MKTG 5223.

**MKTG 636V. Special Problems in Marketing (Irregular). 1-6 Hour.**

Individual research problems. May be repeated for up to 6 hours of degree credit.

**MKTG 6413. Special Topics in Marketing (Irregular). 3 Hours.**

Seminar in special topics in marketing. Topics vary depending upon the instructor. May be repeated for up to 3 hours of degree credit.

**MKTG 6433. Seminar in Research Methods (Irregular). 3 Hours.**

Extensive review of literature illustrative of marketing research studies. Focuses upon theoretical foundations of research design, methodology, and analysis as well as interpretation of univariate, bivariate, and multivariate data in marketing theory exploration. May be repeated for up to 3 hours of degree credit.

**MKTG 6443. Seminar in Marketing Theory (Irregular). 3 Hours.**

Comprehensive survey and critical review of the history of marketing thought and contemporary schools of thought in marketing discipline. In-depth research, review, synthesis, and a research proposal will be required in a selected topic from the perspectives of advancing marketing theory.

**MKTG 6453. Seminar in Transportation and Business Logistics (Irregular). 3 Hours.**

Underlying theories and problems related to the development of logistical systems in the U.S. Attention focused on transport economics, the role of government in providing transportation facilities, and managerial issues related to integrating transportation, inventory control, warehousing, customer service levels, and facility location.

**MKTG 700V. Doctoral Dissertation (Sp, Fa). 1-18 Hour.**

Doctoral Dissertation. Prerequisite: Candidacy. May be repeated for degree credit.

## Master of Business Administration (MBAD)

### Courses

**MBAD 5241. Ethical Decision Making (Fa). 1 Hour.**

Business Ethics will address business ethics issues from a personal, professional, and organizational perspective. We will cover basic ethical decision-making frameworks to help inform students' personal moral frameworks, ethical issues that are most relevant to managers of modern organizations, and the role of business in society.

**MBAD 535V. MBA Internship (Su). 1-3 Hour.**

This course allows a student to experience an internship within a business and benefit from the applied experience. The internship may be designed to offer a wide range of business experiences. The internship must be supervised by a faculty member as well as a member of the firm. MBA Director approval required. May be repeated for up to 3 hours of degree credit.

**MBAD 536V. Study Abroad-Special Problems (Su). 1-3 Hour.**

Provides MBA students with the opportunity to explore a business problem in depth under the guidance of a graduate faculty member. MBA Director approval required. May be repeated for degree credit.

**MBAD 5413. Partnering Project (Irregular). 3 Hours.**

A large-scale, real world, 10 week project involving hands-on work addressing issues faced by managers in partnering firms. Corequisite: Instructor consent. Prerequisite: MGMT 5323.

**MBAD 5433. Capstone Project (Su). 3 Hours.**

A large-scale project integrating various business topics. Prerequisite: MGMT 5313.

**MBAD 5511. Professional Development -- Special Topics In Business (Sp, Fa). 1 Hour.**

A concentrated emphasis on one business topic. Corequisite: MBAD 5212, MBAD 5122 and MBAD 5232. May be repeated for up to 5 hours of degree credit.

**MBAD 5613. Financial Accounting (Fa). 3 Hours.**

This course covers the preparation and use of financial statements of publicly held corporations in the United States. Topics include the theory and rules used in financial statement preparation, a comparison of United States rules to International Accounting Standards, the analysis of financial statements to provide inter-company and industry comparisons and information about the financial statements of non-profit and governmental organizations.

**MBAD 5773. China Business Law, Regulations, and Ethics (Irregular). 3 Hours.**

Business law in China that is relevant to managers; Chinese regulations particularly relevant to consumer products and retail; business ethics in China.

**MBAD 591V. Capstone Project Definition (Irregular). 1-3 Hour.**

Identification of business processes for capstone project, including: estimation of the size of the opportunity, identification of key decisions, and proposal write up.

**MBAD 592V. Capstone Project Plan (Irregular). 1-3 Hour.**

Second estimation of the size of the project benefit, identification of how the current process operates, assumptions identified, literature investigated, performance metrics, and Gantt chart for project.

**MBAD 593V. Capstone Project Management (Irregular). 1-3 Hour.**

Management of the project, including frequent updates, milestone accomplishment, strategies to overcome challenges, and creation of an implementation plan.

**MBAD 594V. Capstone Project Final Deliverables (Irregular). 1-3 Hour.**

Write up of entire capstone project, presentation of project, estimates of value, implementation plan, performance metrics, and change management plan.

## Mathematics (MATH)

### Courses

**MATH 0003. Beginning and Intermediate Algebra (Sp, Su, Fa). 3 Hours.**

For students who have inadequate preparation for taking MATH 1203. Credit earned in this course may not be applied to the total required for a degree.

**MATH 1203. College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa). 3 Hours.**

Topics include the solution and application of linear and quadratic equations and inequalities; functions, graphs, and theory of equations; matrix solutions of systems of equations and basic properties of matrices. Prerequisite: MATH 0003 with a grade of C or better, or a score of at least 80% on the University of Arkansas Preparedness for Algebra Exam, or a score of at least 23 on the math component of the ACT exam, or a score of at least 540 on the math component of the old SAT or 570 on the math component of the new SAT.

**MATH 1203C. College Algebra (ACTS Equivalency = MATH 1103) (Sp, Su, Fa). 3 Hours.**

Same as MATH 1203 except taught with a corequisite drill component. Corequisite: Drill component. Prerequisite: MATH 0003 with a grade of C or better, or a score of at least 80% on the University of Arkansas Preparedness for Algebra Exam, or a score of at least 23 on the math component of the ACT exam, or a score of at least 540 on the math component of the old SAT or 570 on the math component of the new SAT.

This course is equivalent to MATH 1203.

**MATH 1204. College Algebra with Review (ACTS Equivalency = MATH 1103) (Sp, Su, Fa). 4 Hours.**

Same as MATH 1203 with additional support, increased class time, additional review, and computerized lab component. Prerequisite: MATH 0003 with a grade of D or better, or a score of at least 70% on the University of Arkansas Preparedness for Algebra Exam, or a score of at least 19 on the math component of the ACT exam, or a score of at least 460 on the math component of the old SAT or 500 on the math component of the new SAT.

This course is equivalent to MATH 1203.

**MATH 1213. Plane Trigonometry (ACTS Equivalency = MATH 1203) (Sp, Su, Fa). 3 Hours.**

Basic topics in trigonometry including identities, formulas, and polar coordinate system. Credit will be allowed for only one of either MATH 1213 or MATH 1284C. Prerequisite: MATH 1203 or MATH 1204 with a grade of C or better, or a score of at least 80% on the University of Arkansas Mastery of Algebra Exam, or a score of at least 26 on the math component of the ACT exam, or a score of at least 600 on the math component of the old SAT or 620 on the math component of the new SAT.

**MATH 1284C. Precalculus Mathematics (ACTS Equivalency = MATH 1305) (Sp, Su, Fa). 4 Hours.**

Topics in algebra and trigonometry. To be taken by students who expect to take MATH 2554. Prerequisite: MATH 1203 or MATH 1204 with a grade of C or better, or a score of at least 80% on the University of Arkansas Mastery of Algebra Exam, or a score of at least 26 on the math component of the ACT exam, or a score of at least 600 on the math component of the old SAT or 620 on the math component of the new SAT.

**MATH 1313. Quantitative Reasoning (ACTS Equivalency = MATH 1113) (Sp, Fa). 3 Hours.**

Reasoning about quantitative information, and the use of mathematical tools and models as citizens, consumers, entrepreneurs and employees in today's complex technological society. Topics include modeling with functions; quantity, measurement and indices; finance; counting, probability, odds and risk. Prerequisite: MATH 0003 with a grade of C or better, or a score of at least 70% on the University of Arkansas Preparedness for Algebra Exam, or a score of at least 19 on the math component of the ACT exam, or a score of at least 460 on the math component of the old SAT or 500 on the math component of the new SAT.

**MATH 2031M. Honors Mathematical Thought Lab (Sp, Fa). 1 Hour.**

Supplemental honors laboratory for MATH 2033, Mathematical Thought. Pre- or Corequisite: MATH 2033. Prerequisite: Honors standing or departmental consent.

**MATH 2033. Mathematical Thought (Sp, Su, Fa). 3 Hours.**

This course introduces students to a variety of topics in modern mathematics. Topics vary and can include graph theory, game theory, voting systems, foundations of logic, cardinality, discrete geometry combinatorics, geometry of surfaces, topology and symmetry. Prerequisite: MATH 1203 or MATH 1204 with a grade of C or better, or a score of at least 80% on the University of Arkansas Mastery of Algebra Exam, or a score of at least 26 on the math component of the ACT exam, or a score of at least 600 on the math component of the old SAT or 620 on the math component of the new SAT.

**MATH 2043. Survey of Calculus (ACTS Equivalency = MATH 2203) (Sp, Su, Fa). 3 Hours.**

Selected topics in elementary calculus and analytic geometry for students in business, agriculture, and social sciences. Credit will be allowed for only one of MATH 2043 and MATH 2554. Prerequisite: MATH 1203 or MATH 1204 or MATH 1213 or MATH 1284C or MATH 2053 with a grade of C or better, or a score of at least 80% on the University of Arkansas Mastery of Algebra Exam, or a score of at least 26 on the math component of the ACT exam, or a score of at least 600 on the math component of the old SAT or 620 on the math component of the new SAT.

**MATH 2043C. Survey of Calculus (Sp, Su, Fa). 3 Hours.**

Selected topics in elementary calculus and analytic geometry for students in business, agriculture, and social sciences. Credit will be allowed for only one of MATH 2043 and MATH 2554. Corequisite: Drill component. Prerequisite: MATH 1203 or MATH 1204 or MATH 1213 or MATH 1284C or MATH 2053 with a grade of C or better, or a score of at least 80% on the University of Arkansas Mastery of Algebra Exam, or a score of at least 26 on the math component of the ACT exam, or a score of at least 600 on the math component of the old SAT or 620 on the math component of the new SAT.

This course is equivalent to MATH 2043.

**MATH 2053. Finite Mathematics (Sp, Su, Fa). 3 Hours.**

Selected topics in probability and statistics, review of algebraic matrices, and graphic analysis of linear programming for students in business, agriculture, and social sciences. Prerequisite: MATH 1203 or MATH 1204 or MATH 1213 or MATH 1284C or MATH 2043 with a grade of C or better, or a score of at least 80% on the University of Arkansas Mastery of Algebra Exam, or a score of at least 26 on the math component of the ACT exam, or a score of at least 600 on the math component of the old SAT or 620 on the math component of the new SAT.

**MATH 2053C. Finite Mathematics (Sp, Fa). 3 Hours.**

Selected topics in probability and statistics, review of algebraic matrices, and graphic analysis of linear programming for students in business, agriculture, and social sciences. Taught with a two-day-per-week lecture and one-day-per-week drill. Corequisite: Drill component. Prerequisite: MATH 1203 or MATH 1204 or MATH 1213 or MATH 1284C or MATH 2043 with a grade of C or better, or a score of at least 80% on the University of Arkansas Mastery of Algebra Exam, or a score of at least 26 on the math component of the ACT exam, or a score of at least 600 on the math component of the old SAT or 620 on the math component of the new SAT. This course is equivalent to MATH 2053.

**MATH 2183. Mathematical Reasoning in a Quantitative World (Sp, Fa). 3 Hours.**

Mathematical and statistical reasoning are required in contexts of growing complexity and sophistication. The purpose of this course is to cause students to possess the power and habit of mind to search out quantitative information, critique it, reflect upon it, and apply it in their public, personal and professional lives. Prerequisite: MATH 1203, MATH 1204, or MATH 1313, or a score of at least 80% on the University of Arkansas Mastery of Algebra Exam, or a score of at least 26 on the math component of the ACT exam, or a score of at least 600 on the math component of the old SAT or 620 on the math component of the new SAT.

**MATH 2213. Survey of Mathematical Structures I (Sp, Su, Fa). 3 Hours.**

Sets and logic, systems of numerations, number systems and operations, and elementary number theory. Prerequisite: A grade of C or better in any of MATH 1203, MATH 1204, MATH 1213, MATH 1284C, MATH 2033, MATH 2043, MATH 2053, MATH 2183 or MATH 2554, or a score of at least 80% on the University of Arkansas Mastery of Algebra Exam, or a score of at least 26 on the math component of the ACT exam, or a score of at least 600 on the math component of the old SAT or 620 on the math component of the new SAT.

**MATH 2223. Survey of Mathematical Structures II (Sp, Su, Fa). 3 Hours.**

Geometry and measurement, and statistics and probability. Prerequisite: A grade of C or better in MATH 2213.

**MATH 2445. Calculus I with Review (Sp, Su, Fa). 5 Hours.**

Derivative of functions of one variable, applications of the derivative, introduction of the integral, and applications. Credit will be allowed for only one of MATH 2445, MATH 2554 or MATH 2043. Prerequisite: MATH 1213 with a grade of C or better, or MATH 1284C with a grade of C or better, or a score of at least 70% on the University of Arkansas Preparedness for Calculus Exam, or a score of at least 28 on the math component of the ACT exam, or a score of at least 640 on the math component of the old SAT or 660 on the math component of the new SAT, or a score of at least 2 on the Calculus AB or BC Advanced Placement Exam. This course is equivalent to MATH 2554.

**MATH 2554. Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa). 4 Hours.**

Derivative of functions of one variable, applications of the derivative, introduction of the integral, and applications. Credit will be allowed for only one of MATH 2554 and MATH 2043. Prerequisite: MATH 1213 with a grade of C or better, or MATH 1284C with a grade of C or better, or a score of at least 80% on the University of Arkansas Preparedness for Calculus Exam, or a score of at least 28 on the math component of the ACT exam, or a score of at least 680 on the math component of the old SAT or 710 on the math component of the new SAT, or a score of at least 2 on the Calculus AB or BC Advanced Placement Exam.

**MATH 2554C. Calculus I (ACTS Equivalency = MATH 2405) (Sp, Fa). 4 Hours.**

Derivative of functions of one variable, applications of the derivative, introduction of the integral, and applications. Credit will be allowed for only one of MATH 2554 and MATH 2043. Corequisite: Drill component. Prerequisite: MATH 1213 with a grade of C or better, or MATH 1284C with a grade of C or better, or a score of at least 80% on the University of Arkansas Preparedness for Calculus Exam, or a score of at least 28 on the math component of the ACT exam, or a score of at least 680 on the math component of the old SAT or 710 on the math component of the new SAT, or a score of at least 2 on the Calculus AB or BC Advanced Placement Exam.

This course is equivalent to MATH 2554.

**MATH 2554H. Honors Calculus I (Sp, Fa). 4 Hours.**

Topics in analytic geometry and calculus presented in a rigorous manner suitable for an honors student. Students may not receive credit for both MATH 2043 and MATH 2554. Prerequisite: Honors standing or departmental consent; and a score of at least 30 on the math component of the ACT exam, or a score of at least 680 on the math component of the old SAT or 710 on the math component of the new SAT. This course is equivalent to MATH 2554.

**MATH 2564. Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa). 4 Hours.**

Integral calculus of one variable and infinite series. Prerequisite: MATH 2554 with a grade of C or better.

**MATH 2564C. Calculus II (Sp, Su, Fa). 4 Hours.**

Integral calculus of one variable and infinite series. Three hours of lecture and two hours of drill (recitation) per week. Corequisite: Drill component. Prerequisite: MATH 2554 with a grade of C or better. This course is equivalent to MATH 2564.

**MATH 2564H. Honors Calculus II (Sp). 4 Hours.**

Integral calculus of one variable and infinite series. Prerequisite: MATH 2554 with a grade of A, or MATH 2554H with a grade of A or B, or a score of 5 on the AP AB Calculus Exam.

This course is equivalent to MATH 2564.

**MATH 2574. Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa). 4 Hours.**

Differential and integral calculus of several variables, and vector calculus. Prerequisite: MATH 2564 with a grade of C or better.

**MATH 2574C. Calculus III (Sp, Su, Fa). 4 Hours.**

Differential and integral calculus of several variables, and vector calculus. Three hours of lecture and two hours of drill (recitation) per week. Corequisite: Drill component. Prerequisite: MATH 2564 with a grade of C or better. This course is equivalent to MATH 2574.

**MATH 2574H. Honors Calculus III (Sp, Fa). 4 Hours.**

Differential and integral calculus of several variables, and vector calculus. Prerequisite: MATH 2564 with a grade of A, or MATH 2564H with a grade of A or B, or a score of 5 on the AP BC Calculus exam. This course is equivalent to MATH 2574.

**MATH 2584. Elementary Differential Equations (Sp, Su, Fa). 4 Hours.**

First and second order ordinary differential equations, the Laplace transform, and matrix systems of ordinary differential equations. Prerequisite: MATH 2564 or MATH 2564C with a grade of C or better.

**MATH 2584C. Elementary Differential Equations (Sp, Su, Fa). 4 Hours.**

First and second order ordinary differential equations, the Laplace transform, and matrix systems of ordinary differential equations. Three hours of lecture and two hours of drill (recitation) per week. Corequisite: Drill component. Prerequisite: MATH 2564 or MATH 2564C with a grade C or better. This course is equivalent to MATH 2584.

**MATH 2584H. Honors Elementary Differential Equations (Irregular). 4 Hours.**

Topics in ordinary differential equations, systems of differential equations and the Laplace transform presented with an emphasis on modeling. Prerequisite: MATH 2564 with a grade of A, or MATH 2564H with a grade of A or B, or a score of 5 on the AP BC Calculus exam.

**MATH 2603. Discrete Mathematics (Sp, Su, Fa). 3 Hours.**

Introductory study of sets, relations, logic, proofs, algorithms, counting methods, graph theory, trees, and Boolean algebras. Prerequisite: MATH 2554 with a grade of C or better or the equivalent.

**MATH 2603C. Discrete Mathematics (Sp, Su, Fa). 3 Hours.**

Introductory study of sets, relations, logic, proofs, algorithms, counting methods, graph theory, trees, and Boolean algebras. Corequisite: Drill component. Prerequisite: MATH 2554 with a grade of C or better or the equivalent. This course is equivalent to MATH 2603.

**MATH 2701. Survey of Higher Math (Sp). 1 Hour.**

This course overviews the landscape of higher mathematics, touching on many of the themes of modern mathematics: proof, logic, cardinality, analysis, modeling, abstract algebra, number theory, topology and geometry. Pre- or Corequisite: MATH 2564.

**MATH 2803. Transition to Advanced Mathematics (Sp, Fa). 3 Hours.**

An introduction to concepts encountered in advanced mathematics. Emphasis is placed on developing the student's problem solving skills and ability to correctly communicate abstract concepts. Topics to include set theory, logic, relations, functions and mathematical induction presented in the context of intriguing mathematical problems. Pre- or Corequisite: MATH 2564 or MATH 2564C.

**MATH 2903. Functions, Foundations and Models (Sp, Fa). 3 Hours.**

An in-depth study of topics from secondary school mathematics, emphasizing the development of the concept function, function patterns in data sets, connections among the main topics associated with a secondary school curriculum, and the appropriate use of technology. Pre-or Corequisite: MATH 2564 or MATH 2564C.

**MATH 3013. Introduction to Probability (Sp, Su, Fa). 3 Hours.**

A calculus-based introduction to probability. Discrete probability spaces and counting techniques, discrete and continuous probability distributions, random variables, random samples, law of large numbers, central limit theorem. Prerequisite: MATH 2564 or MATH 2564C. This course is cross-listed with STAT 3013.

**MATH 3083. Linear Algebra (Sp, Su, Fa). 3 Hours.**

Systems of linear equations, vector spaces, linear transformations, matrices, and determinants. Only one of MATH 3083 and MATH 3093 will count for credit. Prerequisite: MATH 2554 or MATH 2043, with a grade of C or better.

**MATH 3093. Abstract Linear Algebra (Sp, Fa). 3 Hours.**

A proof-based course on vector spaces, linear transformations, matrices, determinants, eigenspaces and eigenvalues, with applications. Recommended for mathematics majors. Only one of MATH 3083 and MATH 3093 may be counted for credit. Prerequisite: MATH 2564 and MATH 2803 with a C or better.

**MATH 3103. Combinatorial and Discrete Mathematics (Sp, Fa). 3 Hours.**

Basic combinatorial techniques including the study of networks, generating functions, principles of inclusion/ exclusion, Zn, Hamming coding theory, graph theory, and block designs. Prerequisite: MATH 2603 or MATH 2803.

**MATH 3113. Introduction to Abstract Algebra I (Sp, Fa). 3 Hours.**

Introduction to algebraic structures with emphasis on rigorous justification of results. Prerequisite: MATH 2803 with a grade of C or better; and MATH 3083 or MATH 3093 with a grade of C or better.

**MATH 3133. History of Mathematics (Sp). 3 Hours.**

Survey of the development of mathematical ideas from the ancient to the modern times. Prerequisite: MATH 2554, and MATH 2603 or MATH 2803, both with a grade of C or better.

**MATH 3203. Number Theory (Irregular). 3 Hours.**

Topics in elementary number theory. Prerequisite: MATH 2554, and MATH 2603 or MATH 2803, both with a grade of C or better.

**MATH 3513. Elementary Analysis (Sp, Fa). 3 Hours.**

A first rigorous course in analysis. The formal basis of the real number system, sequences and series, the Bolzano-Weierstrass Theorem, limits and continuity, the Intermediate Value Theorem, Rolle's Theorem, differentiation, the Mean Value Theorem and its consequences, Taylor's Theorem, L'Hopital's rules, convexity, Riemann integration, the Fundamental Theorem of Calculus. Only one of MATH 3513 and MATH 4513 may be counted for credit toward the major. Prerequisite: A grade of C or better in each of MATH 2554 or MATH 2554C, MATH 2564 or MATH 2564C, MATH 2574 or MATH 2574C, MATH 3083 or MATH 3093, and MATH 2803.

**MATH 3773. Foundations of Geometry I (Fa). 3 Hours.**

Axiomatic method; Euclidean geometry; non-Euclidean geometry. Prerequisite: MATH 2554, and MATH 2603 or MATH 2803, each with a grade of C or better.

**MATH 3923H. Honors Colloquium (Irregular). 3 Hours.**

Covers a special topic or issue, offered as part of the honors program. Prerequisite: Honors candidacy (not restricted to candidacy in mathematics). May be repeated for degree credit.

**MATH 399VH. Honors Mathematics Course (Sp, Su, Fa). 1-6 Hour.**

Prerequisite: Departmental consent. May be repeated for up to 12 hours of degree credit.

**MATH 400V. Directed Readings (Sp, Su, Fa). 1-7 Hour.**

Prerequisite: Departmental consent. May be repeated for up to 7 hours of degree credit.

**MATH 404V. Classroom Practices in Mathematics (Sp, Fa). 1-3 Hour.**

The pedagogy of curricular materials in mathematics acquired through participation in the classroom as an apprentice teacher. Non-major elective credit only. Prerequisite: MATH 2574 and departmental approval.

**MATH 405V. Internship in Professional Practice. 1-3 Hour.**

Professional work experience involving significant use of mathematics or statistics in business, industry or government. Prerequisite: Departmental consent. May be repeated for up to 3 hours of degree credit.

**MATH 4103. Advanced Linear Algebra (Irregular). 3 Hours.**

Linear functionals, matrix representation of linear transformations, scalar product, and spectral representation of linear transformations. Prerequisite: MATH 3083 or MATH 3093.

**MATH 4113. Introduction to Abstract Algebra II (Sp). 3 Hours.**

Topics in abstract algebra including finite abelian groups, linear groups, factorization in commutative rings and Galois theory. Prerequisite: MATH 3113.

**MATH 4153. Mathematical Modeling (Irregular). 3 Hours.**

Mathematical techniques for formulating, analyzing, and criticizing deterministic models taken from the biological, social, and physical sciences. Techniques include graphical methods, stability, optimization, and phase plane analysis. Prerequisite: MATH 2584.

**MATH 4163. Dynamic Models in Biology (Irregular). 3 Hours.**

Mathematical and computational techniques for developing, executing, and analyzing dynamic models arising in the biological sciences. Both discrete and continuous time models are studied. Applications include population dynamics, cellular dynamics, and the spread of infectious diseases. Prerequisite: MATH 2554. This course is cross-listed with BIOL 4163.

**MATH 4173. Mathematical CAM Design (Irregular). 3 Hours.**

Mathematical and computational techniques for Computer aided manufacturing. Applying linear algebra to model 3d space, representation of curves and surfaces in 3d models, converting between smooth and discrete approximations of curves, algorithms to create surfaces from machine toolpaths, inverse kinematics, basic G-Code programming. Prerequisite: MATH 2574 or MATH 2574C.

**MATH 4253. Symbolic Logic I (Fa). 3 Hours.**

Rigorous analyses of the concepts of proof, consistency, equivalence, validity, implication, and truth. Full coverage of truth-functional logic and quantification theory (predicate calculus). Discussion of the nature and limits of mechanical procedures (algorithms) for proving theorems in logic and mathematics. Informal accounts of the basic facts about infinite sets. Prerequisite: MATH 2603, MATH 2803, or PHIL 2203. This course is cross-listed with PHIL 4253.

**MATH 4353. Numerical Linear Algebra (Sp). 3 Hours.**

Numerical methods for problems of linear algebra, including the solution of very large systems, eigenvalues, and eigenvectors. Prerequisite: MATH 3083 or MATH 3093.

**MATH 4363. Numerical Analysis (Fa). 3 Hours.**

General iterative techniques, error analysis, root finding, interpolation, approximation, numerical integration, and numerical solution of differential equations. Prerequisite: MATH 2584.

**MATH 4423. Introduction to Partial Differential Equations (Sp, Su, Fa). 3 Hours.**

Matrices, Fourier analysis, and partial differential equations. Prerequisite: MATH 2584 or MATH 2584C with a grade of C or better.

**MATH 4443. Complex Variables (Fa). 3 Hours.**

Complex analysis, series, and conformal mapping. Additional applications for graduate credit. Prerequisite: MATH 2603 or MATH 2803, and MATH 2584 or MATH 2584C.

**MATH 4503. Differential Geometry (Irregular). 3 Hours.**

Topics include: classical differential geometry of curves and surfaces in 3-space, differential forms and vector fields. Prerequisite: MATH 2574 or MATH 2574C.

**MATH 4513. Advanced Calculus I (Sp, Fa). 3 Hours.**

The real and complex number systems, basic set theory and topology, sequences and series, continuity, differentiation, and Taylor's theorem. Emphasis is placed on careful mathematical reasoning. Only one of MATH 3513 and MATH 4513 may be counted for credit toward the major. Prerequisite: MATH 2574, MATH 2803 and MATH 3083 or MATH 3093.

**MATH 4523. Advanced Calculus II (Sp). 3 Hours.**

The Riemann-Stieltjes integral, uniform convergence of functions, Fourier series, implicit function theorem, Jacobians, and derivatives of higher order. Prerequisite: MATH 4513.

**MATH 4933. Mathematics Major Seminar (Sp). 3 Hours.**

Weekly seminars on topics of historical or cross-disciplinary interest, designed to address students' mathematical knowledge, problem-solving and communication skills, in which student presentations play a part. Also serves as a forum for sharing information about career opportunities and preparation for employment. Prerequisite: Senior standing and a mathematics major, or departmental consent.

**MATH 498V. Senior Thesis (Sp, Su, Fa). 1-6 Hour.****MATH 499V. Research Topics in Mathematics (Irregular). 1-3 Hour.**

Current research interests in mathematics, at an advanced undergraduate or beginning graduate level. Prerequisite: Departmental consent. May be repeated for up to 12 hours of degree credit.



**MATH 499VH. Honors Research Topics in Mathematics (Irregular). 1-3 Hour.**

Current research interests in mathematics, at an advanced undergraduate or beginning graduate level. Prerequisite: Departmental consent. May be repeated for up to 12 hours of degree credit.

This course is equivalent to MATH 499V.

**MATH 5001. Connections to School Mathematics (Irregular). 1 Hour.**

This course is a supplement to any graduate course in statistics, algebra, analysis, or geometry. The purpose is to connect the content of the graduate course to school mathematics. Prerequisite: Departmental consent. May be repeated for up to 6 hours of degree credit.

**MATH 5013. Abstract Algebra with Connections to School Mathematics (Irregular). 3 Hours.**

Basic structures of abstract algebra (rings, fields, groups, modules and vector spaces) with emphasis on rings and fields as generalizations of the ring of integers and field of rational numbers. Degree credit will not be awarded for both MATH 4113 (or MATH 5123) plus MATH 5001 and for MATH 5013. Prerequisite: Graduate standing or departmental consent.

**MATH 5023. Geometry with Connections to School Mathematics (Odd years, Fa). 3 Hours.**

School geometry from an advanced perspective including conformity to the Common Core State Standards for Mathematics. Study will include historical developments and geometry based on transformations of two- and three-dimensional space. Prerequisite: Graduate standing.

**MATH 5033. Advanced Calculus with Connections to School Mathematics Teaching (Irregular). 3 Hours.**

Rigorous development of the real numbers, continuity, differentiation, and integration. Degree credit will not be awarded for both MATH 4513 (or MATH 5503) plus MATH 5001 and for MATH 5033. Prerequisite: Departmental consent.

**MATH 504V. Special Topics for Teachers (Irregular). 1-6 Hour.**

Current topics in mathematics of interest to secondary school teachers. Prerequisite: Graduate standing or departmental consent. May be repeated for degree credit.

**MATH 5053. Probability & Statistics with Connections to School Mathematics (Sp). 3 Hours.**

An advanced perspective of probability and statistics as contained in the high school mathematics curriculum with connections to other components of school mathematics. The content is guided by the content of the high school probability and statistics of the Common Core State Standards for Mathematics. Prerequisite: Graduate standing.

**MATH 507V. Professional Development for Secondary Mathematics Teaching (Irregular). 1-3 Hour.**

Validated participation in professional development mathematics workshops or institutes sanctioned by national or international educational organizations such as the College Board, International Baccalaureate Program, and the National Board for Professional Teaching Standards. Prerequisite: Enrollment in Secondary Mathematics Teaching, MA degree program or departmental consent. May be repeated for up to 6 hours of degree credit.

**MATH 510V. Mathematical Seminar (Sp, Fa). 1-3 Hour.**

Members of the faculty and advanced students meet for presentation and discussion of topics. Prerequisite: Graduate standing in mathematics or statistics, or departmental consent.

**MATH 5123. Algebra I (Fa). 3 Hours.**

What the beginning graduate student should know about algebra: groups, rings, fields, modules, algebras, categories, homological algebra, and Galois Theory. Prerequisite: MATH 3113, and graduate standing in mathematics or statistics, or departmental consent.

**MATH 5133. Algebra II (Sp). 3 Hours.**

Continuation of MATH 5123. Prerequisite: MATH 5123, and graduate standing in mathematics or statistics.

**MATH 5153. Advanced Linear Algebra (Fa). 3 Hours.**

(Formerly MATH 4103.) Linear functionals, matrix representation of linear transformations, scalar product, and spectral representation of linear transformations. Graduate degree credit will not be given for both MATH 4103 and MATH 5153. Prerequisite: Graduate standing.

**MATH 5213. Advanced Calculus I (Fa). 3 Hours.**

(Formerly MATH 4513.) The real and complex number systems, basic set theory and topology, sequences and series, continuity, differentiation, and Taylor's theorem. Emphasis is placed on careful mathematical reasoning. Graduate degree credit will not be given for both MATH 4513 and MATH 5213. Prerequisite: Graduate standing.

**MATH 5223. Advanced Calculus II (Sp). 3 Hours.**

(Formerly MATH 4523.) The Riemann-Stieltjes integral, uniform convergence of functions, Fourier series, implicit function theorem, Jacobians, and derivatives of higher order. Graduate degree credit will not be given for both MATH 4523 and MATH 5223. Prerequisite: MATH 4513 or MATH 5213 (formerly MATH 4513).

**MATH 5303. Ordinary Differential Equations (Fa). 3 Hours.**

Existence, uniqueness, stability, qualitative behavior, and numerical solutions. Prerequisite: MATH 2584 and MATH 4513, and graduate standing in mathematics or statistics, or departmental consent.

**MATH 5313. Partial Differential Equations (Sp). 3 Hours.**

Classification, boundary value problems, applications, and numerical solutions. Prerequisite: MATH 4423 and MATH 4513, and graduate standing in mathematics or statistics, or departmental consent.

**MATH 5363. Scientific Computation and Numerical Methods (Fa). 3 Hours.**

An introduction to numerical methods used in solving various problems in engineering and the sciences. May not earn credit for this course and MATH 4353 or MATH 4363. Prerequisite: Graduate standing in mathematics or statistics, or departmental consent.

This course is cross-listed with PHYS 5363.

**MATH 5383. Numerical Analysis (Fa). 3 Hours.**

(Formerly MATH 4363.) General iterative techniques, error analysis, root finding, interpolation, approximation, numerical integration, and numerical solution of differential equations. Graduate degree credit will not be given for both MATH 4363 and MATH 5383. Prerequisite: Graduate standing.

**MATH 5393. Numerical Linear Algebra (Sp). 3 Hours.**

(Formerly MATH 4353.) Numerical methods for problems of linear algebra, including the solution of very large systems, eigenvalues, and eigenvectors. Graduate degree credit will not be given for both MATH 4353 and MATH 5393. Prerequisite: Graduate standing.

**MATH 5423. Introduction to Partial Differential Equations (Sp, Fa). 3 Hours.**

Matrices, Fourier analysis, and partial differential equations. Does not count towards degree credit in MATH. Prerequisite: Graduate standing.

**MATH 5453. Functional Analysis I (Odd years, Sp). 3 Hours.**

Banach Spaces, Hilbert Spaces, operator theory, compact operators, dual spaces and adjoints, spectral theory, Hahn-Banach, open mapping and closed graph theorems, uniform boundedness principle, weak topologies. Prerequisite: MATH 5513, and graduate standing in mathematics or statistics, or departmental consent.

**MATH 5503. Theory of Functions of a Real Variable I (Fa). 3 Hours.**

Real number system, Lebesgue measure, Lebesgue integral, convergence theorems, differentiation of monotone functions, absolute continuity and the fundamental theorem of calculus  $L^p$  spaces, Holder and Minkowski inequalities, and bounded linear functionals on the  $L^p$  spaces. Prerequisite: MATH 4523 or MATH 5223 (formerly MATH 4523), and graduate standing in mathematics or statistics, or departmental consent.

**MATH 5513. Theory of Functions of a Real Variable II (Sp). 3 Hours.**

Measure and integration on abstract measure spaces, signed measures, Hahn decomposition, Radon-Nikodym theorem, Lebesgue decomposition, measures on algebras and their extensions, product measures, and Fubini's theorem. Prerequisite: MATH 5503, and graduate standing in mathematics or statistics, or departmental consent.

**MATH 5523. Theory of Functions of a Complex Variable I (Fa). 3 Hours.**

Complex numbers, analytic functions, power series, complex integration, Cauchy's Theorem and integral formula, maximum principle, singularities, Laurent series, and Mobius maps. Prerequisite: MATH 4513 or MATH 5213 (formerly MATH 4513).

**MATH 5533. Theory of Functions of a Complex Variable II (Sp). 3 Hours.**

Riemann Mapping Theorem, analytic continuation, harmonic functions, and entire functions. Prerequisite: MATH 5523, and graduate standing in mathematics or statistics, or departmental consent.

**MATH 5703. Topology I (Even years, Fa). 3 Hours.**

An introduction to topology. Topics include metric spaces, topological spaces and general point-set topology, homotopy and the fundamental group, covering spaces, the classification of surfaces. Prerequisite: MATH 4513 or MATH 5213 (formerly MATH 4513), and graduate standing in mathematics or statistics, or departmental consent.

**MATH 5713. Topology II (Odd years, Sp). 3 Hours.**

The continuation of Topology I. Topics include: advanced homotopy and covering spaces, the Seifert-van Kampen theorem, homology and the Mayer-Vietoris sequence. Prerequisite: MATH 5703, and graduate standing in mathematics or statistics, or departmental consent.

**MATH 5723. Differential Topology I (Odd years, Fa). 3 Hours.**

An introduction to the topology of smooth manifolds: applications of the inverse function theorem to smooth maps, Sard's theorem, transversality, intersection theory, degrees of maps, vector fields and differential forms on manifolds, integration on manifolds. Prerequisite: MATH 4513 or MATH 5213 (formerly MATH 4513) and graduate standing in mathematics or statistics, or departmental consent.

**MATH 5733. Differential Topology II (Even years, Sp). 3 Hours.**

The continuation of Differential Topology I, with additional advanced topics. Possible advanced topics may include: Morse theory, de Rham cohomology theory, Poincare duality, Riemannian geometry, and Lie groups and Lie algebras. Prerequisite: MATH 5723 and graduate standing in mathematics or statistics, or departmental consent.

**MATH 609V. Topics in Math Education (Sp, Su, Fa). 1-6 Hour.**

Topics in mathematics education research including curriculum, teacher education, learning theory, and assessment. Prerequisite: Graduate standing. May be repeated for up to 12 hours of degree credit.

**MATH 610V. Directed Readings (Irregular). 1-6 Hour.**

Directed readings. Prerequisite: Departmental consent.

**MATH 619V. Topics in Algebra (Sp, Su, Fa). 1-6 Hour.**

Current research interests in algebra. Prerequisite: Graduate standing in mathematics or statistics, or departmental consent. May be repeated for degree credit.

**MATH 659V. Topics in Analysis (Sp, Su, Fa). 1-6 Hour.**

Current research interests in analysis. Prerequisite: Graduate standing in mathematics or statistics, or departmental consent. May be repeated for degree credit.

**MATH 679V. Topics in Topology (Sp, Su, Fa). 1-6 Hour.**

Current research interest in topology. Prerequisite: Graduate standing in mathematics or statistics, or departmental consent. May be repeated for degree credit.

**MATH 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Doctoral Dissertation. Prerequisite: Doctoral candidacy in mathematics. May be repeated for degree credit.

## Mechanical Engineering (MEEG) Courses

**MEEG 2003. Statics (Sp, Su, Fa). 3 Hours.**

Equilibrium and resultants of force systems in a plane and in space; analysis of structures, friction, centroids, moments of inertia, and virtual work method. Methods of analysis are emphasized. Corequisite: Drill component. Pre- or Corequisite: MATH 2574 or MATH 2574C. Prerequisite: PHYS 2054. This course is cross-listed with MEEG 2003H.

**MEEG 2003H. Honors Statics (Sp, Su, Fa). 3 Hours.**

Equilibrium and resultants of force systems in a plane and in space; analysis of structures, friction, centroids, moments of inertia, and virtual work method. Methods of analysis are emphasized. Corequisite: Drill component. Pre- or Corequisite: MATH 2574 or MATH 2574C. Prerequisite: PHYS 2054 and honors standing. This course is cross-listed with MEEG 2003.

**MEEG 2013. Dynamics (Sp, Su, Fa). 3 Hours.**

Kinematics and kinetics of particle and of rigid bodies; work and energy; impulse and momentum, and special topics. Corequisite: Drill component. Prerequisite: (MEEG 2003 or CVEG 2015) and MATH 2574.

**MEEG 2100. Computer-aided Design Competency (Sp, Fa). 0 Hours.**

Students entering the Mechanical Engineering Department are expected to possess basic competency in computer-aided design. Students need to pass a competency test. Deficiencies may be remedied through self-paced, computer-based instruction. Prerequisite: GNEG 1121 or GNEG 1121H or GNEG 1103.

**MEEG 2103. Introduction to Machine Analysis (Sp, Su). 3 Hours.**

Introduction to kinematics and kinetics of mechanisms, static and dynamic forces, gears and cam design and analysis. Recitation three hours per week and drill one hour per week. Corequisite: Drill component. Pre- or Corequisite: MEEG 2013. Prerequisite: PHYS 2054 and MEEG 2100.

**MEEG 2303. Introduction to Materials (Sp, Fa). 3 Hours.**

A study of chemical, physical, and electrical properties of materials using fundamental atomistic approach. The materials of interest are: metals, polymers, ceramics, and composites. The interactive relationship between structure, properties, and processing of materials will be emphasized. For various engineering applications. Corequisite: Drill component. Prerequisite: MATH 2554, PHYS 2054 and either CHEM 1103 or CHEM 1113.

**MEEG 2403. Thermodynamics (Sp, Su, Fa). 3 Hours.**

A study of the 1st and 2nd laws of thermodynamics. Availability of energy, properties of liquids, gases, and vapors; nonflow and flow processes. Recitation 3 hours, drill 2 hours per week. Corequisite: Drill component. Prerequisite: PHYS 2054 and MATH 2564.

**MEEG 2703. Computer Methods in Mechanical Engineering (Sp, Su). 3 Hours.**

Use of computers and programming for solving engineering problems. Basic numerical methods including errors, equation solution, matrices, optimization, regression, integration, and differential equations. Corequisite: Drill component. Pre- or Corequisite: MATH 2584.

**MEEG 3013. Mechanics of Materials (Sp, Su, Fa). 3 Hours.**

Stress and deformation of members in tension, compression, torsion, and bending, and the design of these members. Columns, statically indeterminate beams, and simple connections. Corequisite: Drill component. Prerequisite: MEEG 2003.

**MEEG 3013H. Honors Mechanics of Materials (Sp, Su, Fa). 3 Hours.**

Stress and deformation of members in tension, compression, torsion, and bending, and the design of these members. Columns, statically indeterminate beams, and simple connections. Corequisite: Drill component. Prerequisite: MEEG 2003 and honors standing.

This course is equivalent to MEEG 3013.

**MEEG 3113. Machine Dynamics and Control (Su, Fa). 3 Hours.**

The principles of kinematics and kinetics for rigid body motion from dynamics are reviewed and applied to machine components with the goal being to determine their impact on machine behavior and performance. The time varying forces created by the movement of machine components are used to describe the machine's vibrational motion and elementary control principles are introduced with the goal of describing how these motions might be reduced or eliminated. Corequisite: Drill component. Prerequisite: MEEG 2103, MATH 2584 or MATH 2584C, MEEG 2703, and MEEG 2013.

**MEEG 3202L. Mechanical Engineering Laboratory I (Sp, Fa). 2 Hours.**

Introduction to measurement, uncertainty, data acquisition, and instrumentation with an emphasis in materials and manufacturing. Corequisite: Drill component. Pre- or Corequisite: MEEG 3013 and ELEG 3903. Prerequisite: MEEG 2303 and PHYS 2074.

**MEEG 3212L. Mechanical Engineering Laboratory II (Sp, Fa). 2 Hours.**

Design and implementation of measurements, fabrication processes, data acquisition, and data analysis with emphasis in mechanical and fluid systems. Corequisite: Drill component. Prerequisite: MEEG 3202L, MEEG 3503 and MEEG 3113.

**MEEG 3503. Mechanics of Fluids (Su, Fa). 3 Hours.**

A study of fluids including properties, pressure forces, and field flow utilizing conservation of mass, conservation of energy, and momentum principles. Pre- or Corequisite: MATH 2584. Prerequisite: MEEG 2403.

**MEEG 4003. Intermediate Dynamics (Irregular). 3 Hours.**

Review of central-force motion of spacecraft, use of rotating reference frames, Coriolis acceleration. Kinematics of rigid bodies in 3-D space: velocities and accelerations in different moving reference frames, addition theorem of angular accelerations. Kinetics of rigid bodies in 3-D space: eigenvalues and eigenvectors of inertia matrices, momentum and kinetic energy of a rigid body in 3-D motion, Euler's equations of motion; precession, nutation, and spin of a gyroscope; forced steady precession, torque free steady precession, space cone, and body cone. Prerequisite: MEEG 2013.

**MEEG 4023. Composite Materials: Analysis and Design (Irregular). 3 Hours.**

A study of fibrous composite materials with emphasis on mechanical behavior, synthesis, and application. Topics include macro- and micromechanical analysis lamina, lamina theory, failure analysis in design, and manufacturing techniques. Prerequisite: MEEG 3013.

**MEEG 4104. Machine Element Design (Sp, Su). 4 Hours.**

Select design components commonly used in modern machines, principally for energy transmission. Students will be required to design a small system and present their design to the class. Pre- or Corequisite: MEEG 3113. Prerequisite: MEEG 3013.

This course is equivalent to MEEG 4103.

**MEEG 4104H. Honors Machine Element Design (Sp, Su). 4 Hours.**

Select design components commonly used in modern machines, principally for energy transmission. Students will be required to design a small system and present their design to the class. Advanced project required of honors students. Advanced project required. Pre- or Corequisite: MEEG 3113. Prerequisite: MEEG 3013.

This course is equivalent to MEEG 4103.

**MEEG 4123. Finite Element Methods I (Irregular). 3 Hours.**

Introduction to the use of the finite element method in mechanical engineering analysis and design. Use of commercial software to solve thermal and mechanical problems. Pre- or Corequisite: MEEG 3013 and MEEG 4413.

**MEEG 4131. Creative Project Design I (Sp, Fa). 1 Hour.**

Students will select a capstone design project, and each student group will prepare a formal written proposal on their project for presentation to a panel of judges. This group project will be carried to completion in MEEG 4133. Pre- or Corequisite: MEEG 4104 or MEEG 4483.

**MEEG 4132. Professional Engineering Practices (Sp, Fa). 2 Hours.**

Design proposal preparation, design codes, professional ethics, engineering economics, and the role of the engineer in society. Pre- or Corequisite: MEEG 4104 or MEEG 4483.

**MEEG 4133. Creative Project Design II (Sp, Fa). 3 Hours.**

Student groups will present their final capstone design proposal to a faculty panel and then carry out their project to completion. Each student group will make timely progress reports, complete their design project, and present their final report to a panel of judges. Prerequisite: MEEG 4131.

**MEEG 4143. Design for Safety (Irregular). 3 Hours.**

This course provides an overview of safety engineering and a framework from which the students can evaluate and develop mechanical and thermal systems from a safety perspective. Pre- or Corequisite: MEEG 4413. Prerequisite: MEEG 3013.

**MEEG 4153. Fundamentals of Mechanical Design (Fa). 3 Hours.**

This class is designed to provide engineering students with a head start in industry as design engineers or working in an engineering related function. The course contents cover machine design and analysis experiences as related to working in industry and performing consulting work. Major topics include the design process, design procedures, fasteners, general design and numerous consulting experiences. A concept design exercise and two special design projects will be assigned to the students as homework. Prerequisite: MEEG 4104.

**MEEG 4202L. Mechanical Engineering Laboratory III (Sp, Su, Fa). 2 Hours.**

Application of measurement techniques to mechanical engineering problems which emphasize mechanical and thermal systems. Corequisite: Drill component. Pre- or corequisite: MEEG 4483. Prerequisite: MEEG 3212L and MEEG 4104.

**MEEG 4213. Control of Mechanical Systems (Irregular). 3 Hours.**

Mathematical modeling for feedback control of dynamic mechanical systems with design techniques using Laplace transforms, state variables, root locus, frequency analysis, and criteria for performance and stability. Prerequisite: MEEG 3113.

**MEEG 4233. Microprocessors in Mechanical Engineering I: Electromechanical Systems (Irregular). 3 Hours.**

Microcomputer architectural, programming, and interfacing. Smart product design (microprocessor-based design). Control of DC and stepper motors and interfacing to sensors. Applications to robotics and real-time control. Mobile robot project. Digital and analog electronics are reviewed where required. Prerequisite: ELEG 3903.

**MEEG 4253. Introduction to Robotics (Fa). 3 Hours.**

This course serves as an introduction to robotics. The course covers the historical development of robotics as a field, and as mechatronic systems, the importance of integrating sensors, actuators and end-effectors. Topics covered in this course will include but not limited to the following: mathematical modeling of robots, rigid motions and homogeneous transformation, forward/inverse kinematics, and velocity kinematics. Prerequisite: MEEG 2703, MEEG 3113 and instructor consent.

**MEEG 4303. Materials Laboratory (Irregular). 3 Hours.**

A study of properties, uses, testing, and heat treatment of basic engineering materials and related analytical techniques. Corequisite: Lab component. Prerequisite: MEEG 2303.

**MEEG 4303H. Honors Materials Laboratory (Irregular). 3 Hours.**

A study of properties, uses, testing, and heat treatment of basic engineering materials. Corequisite: Lab component. Prerequisite: MEEG 2303 and MEEG 3013. This course is equivalent to MEEG 4303.

**MEEG 4313. Introduction to Tribology (Irregular). 3 Hours.**

A study of science and technology of interacting surfaces in relative motion. Topics include solid surface characterization, contact between solid surfaces, adhesion, friction, wear, lubrication, micro/nanotribology, friction and wear screening test methods, and tribological components and applications. Prerequisite: MEEG 3013 and MEEG 3503 or graduate standing.

**MEEG 4323L. Nanotechnology Laboratory (Fa). 3 Hours.**

Provides students with hands-on experience in several major areas of nanotechnology, including nanoscale imaging, synthesis of nanomaterials, nanostructure assembly and manipulation, device and system integration, and performance evaluation. Students can earn credit for only one of the following courses: MEEG 4323L, BENG 4753L, BMEG 4103L, CHEM 4153L, PHYS 4793L. Corequisite: Drill component, junior standing and instructor consent. Prerequisite: MATH 2564 and PHYS 2074.

This course is cross-listed with CHEM 4153L, PHYS 4793L.

**MEEG 4323M. Honors Nanotechnology Laboratory (Fa). 3 Hours.**

Provides students with hands-on experience in several major areas of nanotechnology, including nanoscale imaging, synthesis of nanomaterials, nanostructure assembly and manipulation, device and system integration, and performance evaluation. Students can earn credit for only one of the following courses: MEEG 4323L, BENG 4753L, BMEG 4103L, CHEM 4153L, PHYS 4793L. Corequisite: Drill component, junior standing and instructor consent. Prerequisite: MATH 2564 and PHYS 2074.

**MEEG 4413. Heat Transfer (Sp, Su). 3 Hours.**

Basic thermal energy transport processes; conduction, convection, and radiation; and the mathematical analysis of systems involving these processes in both steady and time-dependent cases. Prerequisite: MEEG 3503.

**MEEG 4423. Power Generation (Irregular). 3 Hours.**

Study of design and operational aspects of steam, gas, and combined cycle power plants. Brief study of Nuclear and Alternative energy systems. Prerequisite: MEEG 3503.

**MEEG 4433. Aerospace Propulsion (Irregular). 3 Hours.**

Principles, operation, and characteristics of gas turbine and rocket engines. Brief study of novel spacecraft propulsion systems. Prerequisite: MEEG 3503.

**MEEG 4453. Industrial Waste and Energy Management (Irregular). 3 Hours.**

Applications of thermodynamics, heat transfer, fluid mechanics, and electric machinery to the analysis of waste streams and energy consumption for industrial facilities. Current techniques and technologies for waste minimization and energy conservation including energy-consuming systems and processes, utility rate analysis, economic analysis and auditing are taught. Prerequisite: MEEG 4413.

**MEEG 4473. Indoor Environmental Control (Irregular). 3 Hours.**

Gives student a thorough understanding of the fundamental theory of air conditioning design for commercial buildings, including calculating heating and cooling loads along with the proper selection and sizing of air conditioning equipment. Prerequisite: MEEG 4413.

**MEEG 4483. Thermal Systems Analysis and Design (Su, Fa). 3 Hours.**

Analysis design and optimization of thermal systems and components with examples from such areas as power generation, refrigeration, and propulsion, Availability loss characteristics of energy systems and availability conservation methods. Prerequisite: MEEG 4413.

**MEEG 4483H. Honors Thermal Systems Analysis and Design (Su, Fa). 3 Hours.**

Analysis design and optimization of thermal systems and components with examples from such areas as power generation, refrigeration, and propulsion. Availability loss characteristics of energy systems and availability conservation methods. Additional topics, with an additional design project and /or more rigorous approach to design projects for honors course. Advanced project required. Prerequisite: MEEG 4413. This course is equivalent to MEEG 4483.

**MEEG 4493. Internal Combustion Engines (Irregular). 3 Hours.**

Study of the design of internal combustion engines, including emissions and performance issues. Pre- or Corequisite: MEEG 3503.

**MEEG 4503. Introduction to Flight (Fa). 3 Hours.**

The course will provide understanding in basic aerodynamics, airfoil design and characteristics, and flight control surfaces. Prerequisite: MATH 2584, MEEG 3503.

**MEEG 4503H. Honors Introduction to Flight (Fa). 3 Hours.**

The course will provide understanding in basic aerodynamics, airfoil design and characteristics, and flight control surfaces. Prerequisite: MATH 2584 and MEEG 3503. This course is equivalent to MEEG 4503.

**MEEG 4523. Astronautics (Irregular). 3 Hours.**

Study of spacecraft design and operations. Prerequisite: MEEG 2013 and MEEG 2403 or consent of instructor.

**MEEG 4633. Additive Manufacturing (Sp). 3 Hours.**

This course provides an overview of developing opportunities and critical challenges of additive manufacturing (AM, also known as 3-D printing). It covers existing and emerging additive manufacturing processes in the context of product design, materials selection and processing, and industrial and consumer applications. Students will learn to take advantage of the new capabilities of additive manufacturing technologies (e.g., design freedom) for existing and new applications and the implementation of their designs in a laboratory through project-based learning. Students may not receive credit for both MEEG 4633 and MEEG 5633. Prerequisite: MEEG 2100, MEEG 2303, MEEG 3013, and MEEG 3503 or instructor consent.

**MEEG 4703. Mathematical Methods in Engineering (Irregular). 3 Hours.**

Determinants, matrices, inverse of a matrix, simultaneous equations, eigenvalues, eigenvectors, coordinate transformations for matrices, diagonalization, square roots of a matrix, cryptography, and method of least squares. Vector algebra and calculus, Green's theorem, Stokes' theorem, and Gauss' divergence theorem. Index notation, epsilon-delta identity, and Cartesian tensors. Curvilinear coordinates, base vectors, and covariant and contravariant tensors. Applications to mechanics. Prerequisite: MATH 2574.

**MEEG 4903H. Honors Mechanical Engineering Research (Sp, Fa). 3 Hours.**

Independent research for mechanical engineering honors students. Prerequisite: Honors standing and instructor consent.

**MEEG 491V. Special Topics in Mechanical Engineering (Sp, Su, Fa). 1-6 Hour.**

Consideration of current mechanical engineering topics not covered in other courses. May be repeated for up to 6 hours of degree credit.

**MEEG 491VH. Honors Special Topics in Mechanical Engineering (Sp, Su, Fa). 1-6 Hour.**

Consideration of current mechanical engineering topics not covered in other courses. Prerequisite: Honors standing. May be repeated for up to 6 hours of degree credit.

**MEEG 492V. Individual Study in Mechanical Engineering (Sp, Su, Fa). 1-3 Hour.**

Individual study and research on a topic of mutually agreeable interest to the student and a faculty member. Prerequisite: Senior standing.

**MEEG 492VH. Honors Individual Study in Mechanical Engineering (Sp, Su, Fa). 1-3 Hour.**

Individual study and research on a topic of mutually agreeable interest to the student and a faculty member. Prerequisite: Senior standing.

This course is equivalent to MEEG 492V.

**MEEG 5033. Advanced Mechanics of Materials I (Irregular). 3 Hours.**

Combined stress, theories of failure, thick-walled cylinders, bending of unsymmetrical sections, torsion in noncircular section, plate stresses, and strain energy analysis. Prerequisite: MEEG 2013 and MEEG 3013.

**MEEG 5103. Structural Dynamics (Irregular). 3 Hours.**

The forced and random vibration response of complex structural systems are studied through the use of the finite element method. Computational aspects of these problems are discussed and digital computer applications undertaken. Prerequisite: MEEG 3113 and MEEG 4104 and graduate standing.

**MEEG 5113. Modal Analysis Methods (Irregular). 3 Hours.**

Fundamental concepts of both analytical and experimental modal analysis methods are examined and applied to the study of complex structural systems. Computational aspects of these problems are discussed, and digital computer applications undertaken with experimental verification. Prerequisite: MEEG 5103 and graduate standing.

**MEEG 5123. Finite Elements Methods II (Irregular). 3 Hours.**

Development and application of finite element (FE) methods used to solve transient and two-dimensional boundary value problems. Applications are taken from solid and fluid mechanics, heat transfer, and acoustics. Emphasis is placed on the FE methodology in order to make accessible the research literature and commercial software manuals, and to encourage responsible use and interpretation of FE analysis. Prerequisite: MEEG 4123 and graduate standing or consent.

**MEEG 5143. Advanced Machine Design (Irregular). 3 Hours.**

Application of advanced topics such as probability theory, fracture mechanics, and computer methods to the design and analysis of complex mechanical systems. Prerequisite: MEEG 4104 and graduate standing.

**MEEG 5203. Robot Modeling and Simulation (Sp). 3 Hours.**

This is a graduate level course in Robotics dealing with the behavioral study of robots. Topics covered in this course will include but not limited to the following: mathematical modeling of robots, rigid motions and homogeneous transformation, forward/inverse kinematics of robots, velocity kinematics, path and trajectory planning, robot dynamics, joint control, PD/PID control, and multivariable control. Advanced topics may include passivity-based motion control, geometric nonlinear control, computer vision, vision-based control, and sensor fusion. Prerequisite: Graduate standing in MEEG or ELEG and consent of the instructor.

**MEEG 5253. Bio-Mems (Sp). 3 Hours.**

Topics include the fundamental principles of microfluidics, Navier-Stokes Equation, bio/abio interfacing technology, bio/abio hybrid integration of microfabrication technology, and various biomedical and biological problems that can be addressed with microfabrication technology and the engineering challenges associated with it. Lecture 3 hours per week. Prerequisite: MEEG 3503 or CVEG 3213 or CHEG 2133. This course is cross-listed with BENG 5253.

**MEEG 5263. Introduction to Micro Electro Mechanical Systems (Fa). 3 Hours.**

A study of mechanics and devices on the micro scale. Course topics will include: introduction to micro scales, fundamentals of microfabrication, surface and bulk micromachining, device packaging, device reliability, examples of micro sensors and actuators. Recitation three hours per week.

**MEEG 5273. Electronic Packaging (Irregular). 3 Hours.**

An introductory treatment of electronic packaging from single chip to multichip including materials, electrical design, thermal design, mechanical design, package modeling and simulation, processing considerations, reliability, and testing. Credit cannot be earned for both MEEG 5273 and ELEG 5273. Prerequisite: (ELEG 3214 or ELEG 3933) and MATH 2584.

This course is cross-listed with ELEG 5273.

**MEEG 5303. Physical Metallurgy (Irregular). 3 Hours.**

Physical and chemical properties of solids and the application of materials in commerce. Prerequisite: MEEG 2303.

**MEEG 5323. Physical and Chemical Vapor Deposition Processes (Irregular). 3 Hours.**

Fundamental principles of materials behavior in the deposition of films by PVD/CVD. Topics include kinetic theory of gases, statistical mechanics, plasmas, diagnostics, reaction rate theory, nucleation and growth, crystal structures and defects in thin films, advanced characterization techniques for thin films, and applications in microelectronics, tribology, corrosion, bio- and nano-materials. Prerequisite: Graduate standing in Engineering or consent of instructor.

**MEEG 5333. Introduction to Tribology (Irregular). 3 Hours.**

A study of science and technology of interacting surfaces in relative motion. Topics include solid surface characterization, contact between solid surfaces, adhesion, friction, wear, lubrication, micro/nanotribology, friction and wear screening test methods, and tribological components and applications. Students may not earn credit for both MEEG 5333 and MEEG 4313. Prerequisite: Graduate standing.

**MEEG 5343. Computational Material Science (Irregular). 3 Hours.**

This course provides students with an overview of different modeling techniques in material science. Applications will be presented on a broad range of modeling techniques including atomistic simulation methods, Monte Carlo techniques, molecular mechanics, and molecular dynamics. Prerequisite: Graduate standing.

**MEEG 5403. Advanced Thermodynamics (Sp). 3 Hours.**

An in-depth review of classical thermodynamics, including availability analysis, combustion, and equilibrium, with an introduction to quantum mechanics and statistical thermodynamics. Prerequisite: Graduate standing in Engineering or consent of instructor.

**MEEG 5423. Statistical Thermodynamics (Irregular). 3 Hours.**

Concepts and techniques for describing high temperature and chemically reactive gases from a molecular point of view. Introductory kinetic theory, chemical thermodynamics, and statistical mechanics applied. Prerequisite: MEEG 2403 and MATH 2574.

**MEEG 5433. Combustion (Irregular). 3 Hours.**

Introduction to combustion of solid, liquid, and gaseous fuels. Equilibrium and kinetics of hydrocarbon oxidation, laminar and turbulent flames, premixed and non-premixed combustion processes, ignition, quenching, stability, emissions and diagnostics. Prerequisite: Graduate standing in Engineering or consent of instructor.

**MEEG 5453. Advanced Heat Transfer (Fa). 3 Hours.**

More in-depth study of topics covered in MEEG 4413, Heat Transfer, and coverage of some additional topics. Prerequisite: MEEG 4413 or equivalent.

**MEEG 5473. Radiation Heat Transfer (Even years, Su). 3 Hours.**

Spectral analysis, radiant exchange in gray and non-gray enclosures, gas radiation, and multi-mode heat transfer. Prerequisite: MEEG 5453 or equivalent.

**MEEG 5503. Advanced Fluid Dynamics I (Sp). 3 Hours.**

A basic survey of the characteristics of fluid flow under a variety of conditions with examples. Begins with a derivation of the Navier-Stokes equations and an evaluation of the dimensionless groups found from these equations. Topics to be covered include viscous laminar and turbulent boundary layers, jets and wakes, Stokes flow, inviscid flows with and without free surfaces and turbulence. Prerequisite: MEEG 3503 and MATH 2584.

**MEEG 5533. Fundamentals of Aerodynamics (Irregular). 3 Hours.**

A study of external-flow fluid mechanics applied to Aerodynamics. Topics include integral and differential forms of the basic fluid equations (continuity, momentum, and energy), potential flow, and supersonic flow. Prerequisite: MEEG 3503 and MEEG 4503.

**MEEG 5633. Additive Manufacturing (Sp). 3 Hours.**

This course provides an overview of developing opportunities and critical challenges of additive manufacturing (AM, also known as 3-D printing). It covers existing and emerging additive manufacturing processes in the context of product design, materials selection and processing, and industrial and consumer applications. Students may not receive credit for both MEEG 4633 and MEEG 5633. Prerequisite: MEEG 2100, MEEG 2303, MEEG 3013, and MEEG 3503 or instructor consent.

**MEEG 5733. Advanced Numerical Methods (Irregular). 3 Hours.**

Numerical methods for the solution of linear and non-linear ordinary and partial differential equations; initial and boundary value problems; one-step and multi-step methods; predominantly finite difference but also finite element and control volume techniques; and computer applications. Graduate standing in Engineering or consent of instructor.

**MEEG 590V. Master's Research Topic and Report (Sp, Su, Fa). 1-3 Hour.**

Fundamental or applied research project required course for students electing the report option. Prerequisite: Graduate standing.

**MEEG 591V. Special Topics in Mechanical Engineering (Sp, Su, Fa). 1-6 Hour.**

Consideration of current advanced mechanical engineering topics not covered in other courses. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

**MEEG 592V. Individual Study in Mechanical Engineering (Sp, Su, Fa). 1-3 Hour.**

Opportunity for individual study of advanced subjects related to a graduate mechanical engineering program to suit individual requirements. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

**MEEG 5953. Fundamentals of Fracture and Fatigue in Structures (Sp, Fa). 3 Hours.**

The course will cover the concepts of linear-elastic, elastic-plastic and time-dependent Fracture Mechanics as applied to fracture in a variety of materials, structures, and operating conditions. The examples will include fracture in large components such as aircraft, bridges and pressure vessels and also in bones and in soft materials and human tissue. Prerequisite: Graduate standing in Civil, Mechanical or Biomedical Engineering or consent of the instructor. This course is cross-listed with BMEG 5953, CVEG 5953.

**MEEG 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Master's Thesis. Prerequisite: Graduate standing. May be repeated for degree credit.

**MEEG 6800. Graduate Seminar (Sp, Fa). 0 Hours.**

A periodic seminar devoted to mechanical engineering research topics. Course includes letter grades A, B, C, D, and F as well as CR.

**MEEG 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Doctoral Dissertation. Prerequisite: Candidacy. May be repeated for degree credit.

## Medieval and Renaissance Studies (MRST) Courses

**MRST 2013. Introduction to Medieval and Renaissance Studies (Even years, Fa). 3 Hours.**

An interdisciplinary introduction to the major historical and cultural developments in northern Europe and the Mediterranean basin from approximately 500 to 1600 C.E.

**MRST 2013H. Honors Introduction to Medieval and Renaissance Studies (Even years, Fa). 3 Hours.**

An interdisciplinary introduction to the major historical and cultural developments in northern Europe and the Mediterranean basin from approximately 500 to 1600 C.E. May be repeated for up to 6 hours of degree credit.

This course is equivalent to MRST 2013.

**MRST 3013. Special Topics in Medieval Studies (Irregular). 3 Hours.**

In-depth study of some topic or period of medieval literature, art, history and philosophy. Prerequisite: Sophomore standing. May be repeated for up to 12 hours of degree credit.

**MRST 3013H. Honors Special Topics in Medieval Studies (Irregular). 3 Hours.**

In-depth study of some topic or period of medieval literature, art, history and philosophy. Prerequisite: Sophomore standing. May be repeated for up to 12 hours of degree credit.

This course is equivalent to MRST 3013.

**MRST 3023. Special Topics in Early Modern Studies (Irregular). 3 Hours.**

In-depth study of some topic or period of Early Modern literature, art, history and philosophy. May be repeated for up to 12 hours of degree credit.

**MRST 3023H. Honors Special Topics in Early Modern Studies (Irregular). 3 Hours.**

In-depth study of some topic or period of Early Modern literature, art, history and philosophy. May be repeated for up to 12 hours of degree credit.

This course is equivalent to MRST 3023.

**MRST 4003. Medieval and Renaissance Studies Colloquium (Odd years, Sp). 3 Hours.**

Advanced study of some more narrowly focused aspect of medieval and/or Renaissance studies. Prerequisite: Sophomore standing. May be repeated for up to 6 hours of degree credit.

**MRST 4003H. Honors Medieval and Renaissance Studies Colloquium (Odd years, Sp). 3 Hours.**

Advanced study of some more narrowly focused aspect of medieval and/or Renaissance studies. Prerequisite: Sophomore standing. May be repeated for up to 6 hours of degree credit.

This course is equivalent to MRST 4003.

**MRST 470V. Special Topics in Medieval and Renaissance Studies (Irregular). 1-6 Hour.**

An examination of pertinent issues in medieval and/or Renaissance studies. Prerequisite: Sophomore standing. May be repeated for up to 6 hours of degree credit.

**MRST 470VH. Honors Special Topics in Medieval and Renaissance Studies (Irregular). 1-6 Hour.**

An examination of pertinent issues in medieval and/or Renaissance studies. Prerequisite: Sophomore standing. May be repeated for up to 6 hours of degree credit.

This course is equivalent to MRST 470V.

# Microelectronics-Photonics (MEPH)

## Courses

### **MEPH 488V. MicroEP Undergraduate Research (Sp, Fa). 1-3 Hour.**

Special research topics associated with undergraduates enrolled in the Microelectronics-Photonics minor program, or by special permission of the microEP Director to undergraduate students engaged in research with microEP faculty members. May be repeated for up to 6 hours of degree credit.

### **MEPH 5253. Emerging Technologies in Industry (Sp, Fa). 3 Hours.**

Business leaders present technologies used by their companies. Focusing on Arkansas-based companies, technology needs for the industry and innovative ideas for solutions or advancements are discussed. Students work to develop solutions to address company needs or further develop a company's current technology. May be repeated for up to 9 hours of degree credit.

### **MEPH 5383. Research Commercialization and Product Development (Sp). 3 Hours.**

This survey course examines research commercialization through analysis of IP, technology space, market space, manufacturability, financials, and business plans. Entrepreneurial behaviors and product development within large companies are also discussed. A case study using a current UA faculty member's research commercialization effort will be developed. Prerequisite: Graduate Standing.

### **MEPH 5393. Product Development Process (Sp). 3 Hours.**

Demonstration of a student's technical and management knowledge integration by creating a commercially viable product development process to meet a new societal need, with the technical solution based on micro to nanoscale technology. Final grade based on a detailed written report and oral presentation to a panel. Non-thesis students only. Pre- or Corequisite: MEPH 5383. Prerequisite: Instructor permission.

### **MEPH 5513. Applied Research in External Technical Organizations (Sp, Su, Fa). 3 Hours.**

A one semester narrow focus graduate level research effort while working at an external technical organization's site. Requires a final report of style and quality suitable for journal submission. This course available only to Professional Path M.S. microEP students, and may substitute for an MEPH 588V External Internship. May be repeated for up to 6 hours of degree credit.

### **MEPH 5523. Applied On-Campus Collaborative Research with External Technical Organizations (Sp, Su, Fa). 3 Hours.**

A one semester narrow focus graduate level on-campus research effort performed in collaboration with an external technical organization. Requires a final report of style and quality suitable for journal submission. This course available only to Professional Path M.S. microEP students. May be repeated for up to 6 hours of degree credit.

### **MEPH 555V. Internship in External Technical Organization (Sp, Su, Fa). 1-3 Hour.**

Used to document a microEP grad student internship experience in an external technical organization for a minimum duration of six weeks (6-9 weeks=one hour, 10-12 weeks=two hours, and 13-15 weeks=three hours). It may not be used to meet the research requirements of a M.S. degree. Prerequisite: Graduate standing.

### **MEPH 5611. Research Communication Seminar of MS Students (Sp, Fa). 1 Hour.**

This course serves as a forum for MS students to develop oral presentation skills and to exchange research ideas. Research presentations will be on various topics in the area of micro to nanoscale materials, processing, and devices, with research management and planning also being addressed. Prerequisite: Graduate standing.

### **MEPH 5713. Advanced Nanomaterials Chemistry (Irregular). 3 Hours.**

Science and engineering graduates are using more nanomaterials, and modern industry demands that its scientists and engineers have materials chemistry knowledge. Materials from the micro to nanoscale will be examined in this course from the perspective of fundamental chemistry principles to build a picture of tomorrow's materials. May be repeated for up to 3 hours of degree credit.

### **MEPH 5733L. Fabrication at the Nanoscale (Sp). 3 Hours.**

This hands-on lab course will cover the disciplines needed to make active electronic and photonic devices utilizing nanoscale structures and fabrication techniques presently used in research and industry. Prerequisite: Graduate standing and permission of the instructor.

### **MEPH 5742. Transmission Electron Microscopy Theory and Operation (Irregular). 2 Hours.**

This new laboratory course will introduce students to practical electron microscopy and to the operation of the Titan S/TEM for examination of sub-angstrom examination of materials. Students will learn how to conduct a TEM study, how to operate the TEM, and how to extract and interpret useful information. Prerequisite: Graduate standing.

### **MEPH 5811. 1st Year Operations Seminar - Infrastructure Management (Fa). 1 Hour.**

Weekly seminar for 1st year Microelectronics-Photonics graduate students to discuss issues that increase professional performance in technology-centered organizations. The discussions will focus on issues that affect organizational infrastructure, career planning, organizational structures, and may include examples from current events. Prerequisite: Graduate standing.

### **MEPH 5821. Ethics for Scientists and Engineers (Su). 1 Hour.**

This course will introduce methods useful in the practice of ethical decision making in the high technology academic and industrial work place. An emphasis will be placed on applying the methods discussed in the text to student and instructor past professional experiences. Prerequisite: graduate standing.

### **MEPH 5832. Proposal Writing and Management (Su). 2 Hours.**

This course introduces factors that affect proposal success in both the academic and industrial arenas; demonstrates different approaches to writing successful proposals; and introduces students to the legal responsibilities and ramifications of proposal management. Students will write two proposals for peer review and formal evaluation. Prerequisite: Graduate standing.

### **MEPH 587V. Special Topics in Microelectronics-Photonics (Irregular). 1-4 Hour.**

Consideration of current microelectronic-photonic topics not covered in other courses. One section will be created for each topic only after a syllabus is submitted to the microEP office by the faculty member teaching the course. May be repeated for up to 9 hours of degree credit.

### **MEPH 588V. Special Problems in Microelectronics-Photonics (Irregular). 1-3 Hour.**

Opportunity for individual study of advanced subjects related to a graduate degree in Microelectronics-Photonics to suit individual requirements. One section will be created for each student only after a syllabus is submitted to the microEP office by the supervising faculty member. May be repeated for up to 6 hours of degree credit.

### **MEPH 5911. 1st Year Operations Seminar - Personnel Management (Sp). 1 Hour.**

Weekly seminar for 1st year Microelectronics-Photonics graduate students to discuss issues that increase professional performance in technology-centered organizations. The discussions will focus on issues that affect personnel management, team building and structures, and may include examples from current events. Prerequisite: Graduate standing.

**MEPH 626V. Emerging Technologies in Industry Practicum (Sp, Su, Fa). 1-3 Hour.**

Students engage in demand-driven research projects inspired by Arkansas companies as part of the interdisciplinary IGNITE (Industry Generating New Ideas and Technology through Education) program. These projects, which often result from interactions with companies during MEPH 5253, include visiting company locations; developing project goals, budgets, and timelines; and performing research. May be repeated for up to 9 hours of degree credit.

**MEPH 6611. Research Communication Seminar of PhD Students (Sp, Fa). 1 Hour.**

This course serves as a forum for Ph.D. students to develop oral presentation skills and to exchange research ideas. Research presentations will be on various topics in the area of micro to nanoscale materials, processing and devices, with research management and planning also being addressed. Prerequisite: Graduate standing.

**MEPH 6811. 2nd Year Operations Seminar - Management and Leadership (Fa). 1 Hour.**

Weekly seminar for 2nd year Microelectronics-Photonics graduate students to discuss issues that increase professional performance in technology-centered organizations. The discussions will focus on issues that affect management and leadership effectiveness and efficiency, and may include examples from current events. Prerequisite: Graduate standing.

**MEPH 6911. 2nd Year Operations Seminar - Advanced Management and Leadership (Sp). 1 Hour.**

Weekly seminar for 2nd year Microelectronics-Photonics graduate students to discuss advanced issues that increase professional performance in technology-centered organizations. The discussions will focus on the complex issues that affect management and leadership effectiveness and efficiency, and may include examples from current events. Prerequisite: Graduate standing.

## Middle East Studies (MEST) Courses

**MEST 2003. Introduction to Islam (Irregular). 3 Hours.**

This course introduces Islam as a global religion and world civilization, including study of the Qur'an, prophet Muhammad, ritual and community practices, metaphysics, mysticism, art, literature, and sacred and critical history. This course is cross-listed with MEST 2003H.

**MEST 2003H. Honors Introduction to Islam (Irregular). 3 Hours.**

This course introduces Islam as a global religion and world civilization, including study of the Qur'an, prophet Muhammad, ritual and community practices, metaphysics, mysticism, art, literature, and sacred and critical history. This course is cross-listed with MEST 2003.

**MEST 2013. Introduction to Middle East Studies (Fa). 3 Hours.**

This course is designed to provide students with fundamental building blocks for understanding the contemporary Middle East/Islamic World. Students will be introduced to a variety of disciplinary approaches to the study of the geo-cultural region, including history, politics, arts and literature, religions and cultures, social geography, and economics.

**MEST 2203. Introduction to Christianity in the Middle East (Fa). 3 Hours.**

Introduces the geography, events, characters, and histories that formed Christianity across the Mediterranean, North Africa, and the Middle East - from early band of Jews into its global and colonial ascendancy today. Focus on people, conflicts, disagreements, theological locations and the influence of geo-politics and effects of financial, political and/or military control.

This course is cross-listed with MEST 2203H.

**MEST 2203H. Honors Christianity in the Middle East (Fa). 3 Hours.**

Introduces the geography, events, characters, and histories that formed Christianity in the Middle East and North Africa --from early band of Jews into its global and colonial ascendancy today. Focus on people, conflicts, disagreements, theological locations and the influence of geo-politics and effects of financial, political and/or military control.

This course is cross-listed with MEST 2203.

**MEST 3003. Islam: Beliefs and Practices (Sp). 3 Hours.**

Explores the relationship between teachings, norms, customary practices and Muslim perception of Islam. Examines theoretical concepts and practices, such as war and peace, democracy, pluralism, modernity, human rights, environment, gender, Islamic law, nation-state, and citizenship in addition to the basic tenets of Islam.

**MEST 3003H. Honors Islam: Beliefs and Practices (Sp). 3 Hours.**

Explores the relationship between teachings, norms, customary practices and Muslim perception of Islam. Examines theoretical concepts and practices, such as war and peace, democracy, pluralism, modernity, human rights, environment, gender, Islamic law, nation-state, and citizenship in addition to the basic tenets of Islam. Prerequisite: Honors standing.

This course is equivalent to MEST 3003.

**MEST 3203. The New Testament in the Holy Land (Sp). 3 Hours.**

Focuses on the new testament and essential doctrines of the Christian faith, with special focus on the Middle East and North Africa, using historical contexts from which these doctrines developed, and the arguments made by different theological positions in both ancient and modern debates. Examines the experiential side of Christianity, emphasizing the worship and ritualistic observances of various ancient and modern communities in the region.

**MEST 3303. Hebrew Literature & Language I (Fa). 3 Hours.**

Introduction to biblical Israel and Judah. Examines the ancient Hebrew language, focusing on sacred texts produced during Israel's Iron Age II period. Introduces the ancient Hebrew alphabet, biblical Hebrew vocabulary, morphology, and syntax in the context of the Old Testament. Some extra-biblical Hebrew texts will also be considered.

**MEST 340V. MEST Independent Study (Sp, Fa). 1-3 Hour.**

An exploration of varied topics related to the Middle East and North Africa studied independently with the supervision of a faculty member. Credit arranged with instructor. Prerequisite: Instructor consent and junior standing. May be repeated for up to 9 hours of degree credit.

**MEST 340VH. Honors MEST Independent Study (Sp, Fa). 1-3 Hour.**

An exploration of varied topics related to the Middle East and North Africa studied independently with the supervision of a faculty member. Credit arranged with instructor. Prerequisite: Instructor consent, junior standing and honors standing. May be repeated for up to 9 hours of degree credit.

This course is cross-listed with MEST 340V.

**MEST 399V. MEST: Honors Thesis (Irregular). 1-3 Hour.**

Middle East Studies Honors research, readings and thesis. Prerequisite: Junior standing.

**MEST 4003. Middle East Studies Colloquium (Sp). 3 Hours.**

An interdepartmental colloquium with an annual change in subject required of all students in the Middle East studies program. Prerequisite: Sophomore standing. May be repeated for up to 6 hours of degree credit.

**MEST 4003H. Honors Middle East Studies Honors Colloquium (Sp). 3 Hours.**

May be repeated for up to 3 hours of degree credit.

This course is equivalent to MEST 4003.



**MEST 4103. Special Topics in Middle East Studies (Irregular). 3 Hours.**

Courses in lecture or seminar format to be offered in a variety of disciplines relating to the history, culture, politics, geography, languages, literature, arts, and religions of the Middle East, North Africa, and/or Islamic world. May be repeated for up to 12 hours of degree credit.

**MEST 4103H. Honors Special Topics in Middle East Studies (Irregular). 3 Hours.**

Courses in lecture or seminar format to be offered in a variety of disciplines relating to the history, culture, politics, geography, languages, literature, arts, and religions of the Middle East, North Africa, and/or Islamic world. May be repeated for up to 12 hours of degree credit.

**MEST 420V. Internship (Sp, Su, Fa). 3-6 Hour.**

Internship experience with a group, firm, agency, or non-profit organization related to the Middle East and/or North Africa (MENA). Local, regional, and international internships (paid and unpaid) may take place with various NGOs, related corporations, and US Agencies and Departments. Prerequisite: Junior or senior standing. May be repeated for up to 6 hours of degree credit.

**MEST 420VH. Honors Internship (Sp, Su, Fa). 3-6 Hour.**

Internship experience with a group, firm, agency, or non-profit organization related to the Middle East and/or North Africa (MENA). Local, regional, and international internships (paid and unpaid) may take place with various NGOs, related corporations, and US Agencies and Departments. Prerequisite: Junior or senior standing and honors standing. May be repeated for up to 6 hours of degree credit.

This course is cross-listed with MEST 420V.

**MEST 4303. Country Profile: Culture, Landscape, Geography, Language (Irregular). 3 Hours.**

Introduction of a Middle East/North Africa country intended for students preparing for fieldwork, study abroad, or summer internships. Explores a country's geography, society, economy, culture, foods, arts, architecture, and basic conversational language. Content varies by semester but includes countries such as Iran, Turkey, Pakistan, Afghanistan and Israel. Prerequisite: MEST 2013. May be repeated for up to 9 hours of degree credit.

**MEST 4303H. Honors Country Profile: Culture, Landscape, Geography, Language (Irregular). 3 Hours.**

Introduction of a Middle East/North Africa country intended for students preparing for fieldwork, study abroad, or summer internships. Explores a country's geography, society, economy, culture, foods, arts, architecture, and basic conversational language. Content varies by semester but includes countries such as Iran, Turkey, Pakistan, Afghanistan and Israel. Prerequisite: MEST 2013. May be repeated for up to 9 hours of degree credit.

This course is equivalent to MEST 4303.

**MEST 4503. Hebrew Literature and Language II (Irregular). 3 Hours.**

Continuation of Hebrew Literature & Language I. Builds upon biblical Hebrew vocabulary. Familiarizes students with Hebrew's verbal system and contexts in which the Bible's later books (e.g., Ruth, Jonah, and Chronicles) were created. Introduces biblical and Qumran Aramaic and texts from the Dead Sea Scrolls. Prerequisite: MEST 3303.

**MEST 4503H. Honors Hebrew Literature and Language II (Irregular). 3 Hours.**

Continuation of Hebrew Literature & Language I. Builds upon biblical Hebrew vocabulary. Familiarizes students with Hebrew's verbal system and contexts in which the Bible's later books (e.g., Ruth, Jonah, and Chronicles) were created. Introduces biblical and Qumran Aramaic and texts from the Dead Sea Scrolls. Prerequisite: MEST 3303.

This course is equivalent to MEST 4503.

## Music (MUSC)

### Courses

**MUSC 3923H. Honors Colloquium in Music (Irregular). 3 Hours.**

Covers a special topic or issue offered as part of the honors program. Prerequisite: Honors candidacy (not restricted to candidacy in Music). May be repeated for up to 9 hours of degree credit.

**MUSC 490VH. Honors Essay (Irregular). 1-6 Hour.**

An honors research paper in Music History or literature, Ethnomusicology, Music Theory, or Music Education. Open to seniors in honors.

## Music Education (MUED)

### Courses

**MUED 1371. Teaching the Beginning Percussionist (Sp, Fa). 1 Hour.**

A study of the pedagogy and techniques needed to instruct middle school and junior high percussionists. Emphasis on elementary snare drum and marimba performance. Study of junior high band and orchestra methods, solos and ensemble music. Prerequisite: Music education major pursuing a degree in Piano Education, Voice Education, String Education or Woodwind Brass Percussion Education; or instructor's consent.

**MUED 2012. Introduction to Music Education (Sp). 2 Hours.**

A course designed to provide early experiences for the prospective music teacher. Students will become familiar with professional trends, music classroom organizational and management issues, and principles of effective education. Emphases will include basic psychological and philosophical orientation, as well as observations in public school classrooms. Required of all prospective Music Education majors.

**MUED 2532. Class Instruction in Woodwind Instruments (Sp). 2 Hours.**

Familiarizes students with elementary and intermediate skills, techniques and pedagogy needed to teach woodwind instruments--flute, clarinet, saxophone, oboe, and bassoon--in a class setting. Corequisite: Lab component. Prerequisite: MUED major and sophomore standing.

**MUED 2542. Class Instruction in Brass Instruments (Sp). 2 Hours.**

Familiarizes students with elementary and intermediate skills, techniques and pedagogy needed to teach brass instruments--trumpet, French horn, trombone, euphonium, and tuba--in a class setting. Corequisite: Lab component. Prerequisite: MUED major and sophomore standing.

**MUED 2552. Class Instruction in Orchestral String Instruments (Fa). 2 Hours.**

Familiarizes students with elementary and intermediate skills, techniques and pedagogy needed to teach orchestral stringed instruments in a class setting. Includes a lab that specifically focuses on peer teaching of concepts and skills related to teaching stringed instruments. Prerequisite: Bachelor of Music Major with an emphasis in PIAN, VOCE, STRG, or WWBP and sophomore standing.

**MUED 3021. Supervised Practicum in Teaching Musical Skills (Sp). 1 Hour.**

Provides for supervised teaching opportunities with public school students in instrumental, choral, and elementary classes. Prerequisite: All Emphases: MUED 2012.

**MUED 3833. Music Education in the Elementary School (Sp, Fa). 3 Hours.**

Concepts of elementary music education; methods, materials, curriculum design, and supervision in elementary school music. Prerequisite: MUED 2012.

**MUED 3911. Classroom Instruments in Music Education (Fa). 1 Hour.**

The study of instruments utilized in the general music classroom, including but not limited to the Orff Instrumentarium, pitched and unpitched hand-held percussion, frame and various ethnic drums, guitar, and recorder. Elementary and secondary general music classroom preparation with an emphasis on orchestration, composition, and improvisation with instruments commonly utilized in required music classes in public schools. Open to music education majors or with instructor's consent. Pre- or Corequisite: MUED 3833. Prerequisite: MUED 2012.

**MUED 4031. Seminar for Professional Entry into Music Education (Sp, Fa). 1 Hour.**

A seminar offered during student teaching semester to prepare the student for the role of a professional educator. Content includes professional ethics and conduct, classroom management, evaluation and grading, and application for employment.

**MUED 4112. Pedagogy in Music Education (Fa). 2 Hours.**

A course presenting broad music teaching concepts and specific teaching behaviors. Students will experience the pedagogical teaching situation through the construct of effective communication practice. Emphases will be on providing a laboratory environment representative of public school classrooms. Required of all Music Education majors. Prerequisite: MUED 3833.

**MUED 4273. Methods for Teaching String Instruments (Odd years, Fa). 3 Hours.**

Methods and materials for students preparing to teach orchestral instruments and ensembles in the public schools. Prerequisite: MUAC 1371, MUED 2012, MUED 2532, MUED 2542, MUED 2552, and MUED 3021.

**MUED 4283. Teaching Vocal Music (Even years, Fa). 3 Hours.**

Methods and materials used in teaching high school music. Prerequisite: MUED 2012 .

**MUED 4293. Instrumental Methods (Fa). 3 Hours.**

Problems of teaching instrumental music in the public schools. Prerequisite: MUAC 1371, MUED 2012, MUED 2532, MUED 2542, MUED 2552, and MUED 3021.

**MUED 451V. Student Teaching: Elementary Music (Sp, Fa). 4-8 Hour.**

A minimum of five weeks and a maximum of ten weeks will be spent in an off-campus school, where the student will teach under supervision in the elementary classroom and will participate in other activities involving the school and community. Enrollment requirement is for a total of 12 hours and 15 weeks involvement in MUED 452V and MUED 451V. Successful completion of a criminal background check is required prior to beginning student teaching. Corequisite: MUED 452V. Prerequisite: Bachelor of Music degree in Music Education.

**MUED 452V. Student Teaching: Secondary Music (Sp, Fa). 4-8 Hour.**

A minimum of five weeks and a maximum of ten weeks will be spent in an off-campus school, where the student will teach under supervision in the elementary classroom and will participate in other activities involving the school and community. Enrollment requirement is for a total of 12 hours and 15 weeks involvement in MUED 452V and MUED 451V. Successful completion of a criminal background check is required before beginning student teaching. Corequisite: MUED 451V. Prerequisite: Bachelor of Music degree in Music Education.

**MUED 477V. Special Topics in Music Education (Irregular). 1-4 Hour.**

Subject matter not covered in other sources. With permission, may be repeated for credit if topics are different. May be repeated for degree credit.

**MUED 5513. Seminar: Resources in Music Education (Irregular). 3 Hours.**

Study of the analytical and writing skills necessary for academic research in music education. Each student identifies one problem specific to music education, finds and reviews related literature and sources, develops a comprehensive bibliography, and writes a paper which synthesizes the research. Open to graduate students and undergraduates in honors in music education.

**MUED 5653. Seminar: Issues in Music Education (Irregular). 3 Hours.**

A seminar exploring the relationships between the profession of teaching music and selected views about learning theories, teaching methods, philosophy, psychology, and other selected topics relevant to contemporary music education.

**MUED 5733. Music Education in the Elementary School (Irregular). 3 Hours.**

Concepts of elementary music education; methods, materials, curriculum design, and supervision in elementary school music.

**MUED 5811. Curriculum Design in Music (Irregular). 1 Hour.**

Goals and objectives in music education. Student will develop a curriculum for an actual or hypothetical music education program.

**MUED 583V. Workshop: Music in the Elementary School (Irregular). 1-18 Hour.**

An in-service training workshop for elementary music teachers.

**MUED 5862. Marching Band Techniques (Irregular). 2 Hours.**

Includes the place of the marching band in the school program, types of formations used, and selecting, arranging or writing the musical score.

**MUED 5973. Tests and Measurement in Music (Irregular). 3 Hours.**

This course will address the psychometric concepts of tests and measurement of music achievement, aptitude, attitude, and self-assessment. The course will focus on the teaching and assessment of musical skills, musical responses, and will critically examine existing aptitude tests (Seashore, Watkins Farnum, Gordon, etc.). Basic statistical concepts and data analysis used in common testing scenarios will be introduced. Prerequisite: Graduate standing in music.

**MUED 5983. Psychology of Music Behavior (Irregular). 3 Hours.**

This course is an introduction to the psychology of music, and will adopt an interdisciplinary view toward the field, covering such topics as philosophical and sociological questions about the nature and function of music, the physiology of the ear, the physical and perceptual properties of sounds (acoustics), performance anxiety, preference and taste research, social and pedagogical attributes of performance, and behavioral musical responses. Prerequisite: Graduate standing.

**MUED 600V. Master's Thesis (Irregular). 1-6 Hour.**

Preparation of a master's thesis as partial fulfillment of the requirement for the master's degree. May be repeated for degree credit.

**MUED 605V. Independent Study (Irregular). 1-6 Hour.**

Provides students with an opportunity to pursue special study of problems in music education. May be repeated for up to 6 hours of degree credit.

## Music Ensemble (MUEN) Courses

**MUEN 1341. Collegium Musicum I (Irregular). 1 Hour.**

Performance of early music; various combinations of instruments and/or voices. Two hours rehearsal weekly. May be repeated for up to 2 hours of degree credit.

**MUEN 1401. Opera Theatre I (Sp, Fa). 1 Hour.**

Study of opera through performances of scenes, chamber and major operatic production. Admission with director's approval. May be repeated for up to 2 hours of degree credit.

**MUEN 1411. Men's Chorus I (Sp, Fa). 1 Hour.**

Performance-based choral ensemble designed to improve individual and collective vocal skills, develop sight-reading skills, improve the individual's grasp of the essential elements of music, and expose students to repertory of the greater men's chorus canon. Admission is open to any male student on campus. May be repeated for up to 2 hours of degree credit.

**MUEN 1421. Inspirational Chorale I (Sp, Fa). 1 Hour.**

Performance of African American literature with particular emphasis on Negro spirituals, traditional/contemporary gospel music, and sacred world music. Rehearsal 3 hours per week. Admission with director's approval. Prerequisite: Audition and director's approval. May be repeated for up to 2 hours of degree credit.

**MUEN 1431. Symphony Orchestra I (Sp, Fa). 1 Hour.**

Large, select orchestral ensemble setting with a focus on the study and performance of a range of symphonic literature. Emphasis on high artistic standards through style and interpretation. Enrollment limited to more experienced players; by audition only. Corequisite: Lab component. Prerequisite: Director's consent. May be repeated for up to 2 hours of degree credit.

**MUEN 1441. Marching Band I (Fa). 1 Hour.**

Large ensemble performs at football games. Emphasis on high performance standards and a variety of performing styles. Rehearsal 8 hours per week. May be repeated for up to 2 hours of degree credit.

**MUEN 1451. Schola Cantorum I (Sp, Fa). 1 Hour.**

Large, select choral ensemble with focus on the study and performance of a range of choral literature. Emphasis on high artistic standards through style and interpretation. Enrollment limited to more experienced singers; by audition only. Prerequisite: Director's consent. May be repeated for up to 2 hours of degree credit.

**MUEN 1461. Wind Symphony I (Sp, Fa). 1 Hour.**

Large ensemble setting with emphasis on performing wind band literature and enhancing the musicianship of members. Focus on performance standards through style and interpretation. Concerts of high artistic merit which serve the campus community and general public are required. Admission by audition. Prerequisite: Director's consent. May be repeated for up to 2 hours of degree credit.

**MUEN 1471. Jazz Performance Laboratory I (Sp, Fa). 1 Hour.**

Training in the various styles of jazz and popular music. Rehearsal 3 hours per week. Admission by audition. May be repeated for up to 2 hours of degree credit.

**MUEN 1481. Campus Band I (Sp). 1 Hour.**

Large ensemble setting with emphasis on performing wind band literature and enhancing the musicianship of members. Focus on performance standards through style and interpretation. Concerts of artistic merit which serve the campus community and general public may be required. Admission is by audition or special approval. Corequisite: Lab component. May be repeated for up to 2 hours of degree credit.

**MUEN 1491. Concert Band I (Sp). 1 Hour.**

Large ensemble setting with emphasis on performing wind band literature and enhancing the musicianship of members. Focus on performance standards through style and interpretation. Concerts of artistic merit which serve the campus community and general public may be required. Admission is by audition or special approval. Corequisite: Lab component. May be repeated for up to 2 hours of degree credit.

**MUEN 1501. Chamber Music I (Sp, Fa). 1 Hour.**

Performance of small ensemble music for any combination of instruments and/or voice. Rehearsal 3 hours per week. May be repeated for up to 2 hours of degree credit.

**MUEN 1511. Symphonic Band I (Sp). 1 Hour.**

Large ensemble setting with emphasis on performing wind band literature and enhancing the musicianship of members. Focus on performance standards through style and interpretation. Concerts of artistic merit which serve the campus community and general public are required. Admission is by audition or special approval. Corequisite: Lab component. Prerequisite: Director's consent. May be repeated for up to 2 hours of degree credit.

**MUEN 1521. Woodwind Quintet I (Sp, Fa). 1 Hour.**

Study and performance of music for woodwind quintet. Weekly coaching will emphasize intonation, blend, stylistic awareness, and ensemble precision. Repertoire ranges from the 18th to the 20th centuries. 3 hours of rehearsals weekly. May be repeated for up to 2 hours of degree credit.

**MUEN 1541. Accompanying I (Sp, Fa). 1 Hour.**

Piano accompanying of vocal and instrumental soloists. Rehearsal 2 hours per week. Prerequisite: MUAP 110V. May be repeated for up to 2 hours of degree credit.

**MUEN 1551. Percussion Ensemble I (Sp, Fa). 1 Hour.**

Study and performance of ensemble music for multiple percussion instruments. Rehearsal 2 hours per week. May be repeated for up to 2 hours of degree credit.

**MUEN 1561. Musical Theater Orchestra I (Irregular). 1 Hour.**

Instrumental ensemble with focus on the preparation and performance of musical theater pit orchestra music, in conjunction with UA Theater's mainstage musical. Admission by audition or director's approval. May be repeated for up to 2 hours of degree credit.

**MUEN 1581. Chamber Choir I (Sp, Fa). 1 Hour.**

Study and performance of vocal chamber music. Rehearsal 2 hours per week for 1 hour of credit. May be repeated for up to 2 hours of degree credit.

**MUEN 1591. Women's Chorus I (Sp, Fa). 1 Hour.**

Select performance-based choral ensemble designed to improve individual and collective vocal skills, develop sight-reading skills, improve the individual's grasp of the essential elements of music, and expose students to repertory of the greater treble chorus canon. Admission by audition or director's consent. May be repeated for up to 2 hours of degree credit.

**MUEN 1691. Wind Ensemble I (Sp, Fa). 1 Hour.**

Large ensemble setting performing orchestral wind and symphonic band literature with emphasis on high performance standards through style and interpretation. Concerts of high artistic merit which serve the campus community and general public are required. Admission is by audition. Corequisite: Lab component. May be repeated for up to 2 hours of degree credit.

**MUEN 1711. Flute Ensemble I (Sp, Fa). 1 Hour.**

Study and performance of music for multiple flutes, including trios, quartets, quintets, and flute choir. Rehearsal 2 hours per week. May be repeated for up to 2 hours of degree credit.

**MUEN 1721. Clarinet Ensemble I (Sp, Fa). 1 Hour.**

Study and performance of music for multiple clarinets, including trios, quartets, quintets, and clarinet choir. Rehearsal 2 hours per week. May be repeated for up to 2 hours of degree credit.

**MUEN 1731. Saxophone Ensemble I (Sp, Fa). 1 Hour.**

Study and performance of music for multiple saxophones, including trios, quartets, quintets, and saxophone choir. Rehearsal 3 hours per week. May be repeated for up to 2 hours of degree credit.

**MUEN 1751. Trumpet Ensemble I (Sp, Fa). 1 Hour.**

Study and performance of music for multiple trumpets, including trios, quartets, quintets, and trumpet choir. Rehearsal 2 hours per week. May be repeated for up to 2 hours of degree credit.

**MUEN 1761. New Music Ensemble I (Sp, Fa). 1 Hour.**

Small, select ensemble with emphasis on music written in the last hundred years, especially by important living composers. Focus on audience engagement through high performance standards, unconventional settings, and programs unique to the region. Off-campus appearances and outreach activities are required. Admission by consent. May be repeated for up to 2 hours of degree credit.

**MUEN 1771. Trombone Ensemble I (Sp, Fa). 1 Hour.**

Study and performance of music for multiple trombones, including trios, quartets, quintets, and trombone choir. Rehearsal 2 hours per week. May be repeated for up to 2 hours of degree credit.

**MUEN 1781. Tuba Ensemble (Sp, Fa). 1 Hour.**

Study and performance of music for multiple combinations of tuba and euphonium, including trios, quartets, quintets, and low brass choir. Rehearsal 2 hours per week. May be repeated for up to 2 hours of degree credit.

**MUEN 2341. Collegium Musicum II (Irregular). 1 Hour.**

Continuation of Collegium Musicum I. Performance of early music various combinations of instruments and/or voices. Two hours rehearsal weekly. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

**MUEN 2401. Opera Theatre II (Sp, Fa). 1 Hour.**

Continuation of Opera Theatre I. Study of opera through performances of scenes, chamber and major operatic production. Admission with director's approval. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

**MUEN 2411. Men's Chorus II (Sp, Fa). 1 Hour.**

Continuation of Men's Chorus I. Performance-based choral ensemble designed to improve individual and collective vocal skills, develop sight-reading skills, improve the individual's grasp of the essential elements of music, and expose students to repertory of the greater men's chorus canon. Admission is open to any male student on campus. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

**MUEN 2421. Inspirational Chorale II (Sp, Fa). 1 Hour.**

Continuation of Inspirational Chorale I. Performance of African American literature with particular emphasis on Negro spirituals, traditional/contemporary gospel music, and sacred world music. Rehearsal 3 hours per week. Admission with director's approval. Prerequisite: Sophomore standing, audition and approval of director. May be repeated for up to 2 hours of degree credit.

**MUEN 2431. Symphony Orchestra II (Sp, Fa). 1 Hour.**

Continuation of Symphony Orchestra I. Large, select orchestral ensemble setting with a focus on the study and performance of a range of symphonic literature. Emphasis on high artistic standards through style and interpretation. Enrollment limited to more experienced players; by audition only. Corequisite: Lab component. Prerequisite: Sophomore standing and director's consent. May be repeated for up to 2 hours of degree credit.

**MUEN 2441. Marching Band II (Fa). 1 Hour.**

Continuation of Marching Band I. Large ensemble performs at football games. Emphasis on high performance standards and a variety of performing styles. Rehearsal 8 hours per week. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

**MUEN 2451. Schola Cantorum II (Sp, Fa). 1 Hour.**

Continuation of Schola Cantorum I. Large, select choral ensemble with focus on the study and performance of a range of choral literature. Emphasis on high artistic standards through style and interpretation. Enrollment limited to more experienced singers; by audition only. Prerequisite: Sophomore standing and director's consent. May be repeated for up to 2 hours of degree credit.

**MUEN 2461. Wind Symphony II (Sp, Fa). 1 Hour.**

Continuation of Wind Symphony I. Large ensemble setting with emphasis on performing wind band literature and enhancing the musicianship of members. Focus on performance standards through style and interpretation. Concerts of high artistic merit which serve the campus community and general public are required. Admission by audition. Prerequisite: Sophomore standing and director's consent. May be repeated for up to 2 hours of degree credit.

**MUEN 2471. Jazz Performance Laboratory II (Sp, Fa). 1 Hour.**

Continuation of Jazz Performance Laboratory II. Training in the various styles of jazz and popular music. Rehearsal 3 hours per week. Admission by audition. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

**MUEN 2481. Campus Band II (Sp). 1 Hour.**

Continuation of Campus Band I. Large ensemble setting with emphasis on performing wind band literature and enhancing the musicianship of members. Focus on performance standards through style and interpretation. Concerts of artistic merit which serve the campus community and general public may be required. Admission is by audition or special approval. Corequisite: Lab component. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

**MUEN 2491. Concert Band II (Sp). 1 Hour.**

Continuation of Concert Band I. Large ensemble setting with emphasis on performing wind band literature and enhancing the musicianship of members. Focus on performance standards through style and interpretation. Concerts of artistic merit which serve the campus community and general public may be required. Admission is by audition or special approval. Corequisite: Lab component. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

**MUEN 2501. Chamber Music II (Sp, Fa). 1 Hour.**

Continuation of Chamber Music I. Performance of small ensemble music for any combination of instruments and/or voice. Rehearsal 3 hours per week. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

**MUEN 2511. Symphonic Band II (Sp). 1 Hour.**

Continuation of Symphonic Band I. Large ensemble setting with emphasis on performing wind band literature and enhancing the musicianship of members. Focus on performance standards through style and interpretation. Concerts of artistic merit which serve the campus community and general public are required. Admission is by audition or special approval. Corequisite: Lab component. Prerequisite: Sophomore standing; director's consent. May be repeated for up to 2 hours of degree credit.

**MUEN 2521. Woodwind Quintet II (Sp, Fa). 1 Hour.**

Continuation of Woodwind Quintet I. Study and performance of music for woodwind quintet. Weekly coaching will emphasize intonation, blend, stylistic awareness, and ensemble precision. Repertoire ranges from the 18th to the 20th centuries. 3 hours of rehearsals weekly. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

**MUEN 2541. Accompanying II (Sp, Fa). 1 Hour.**

Continuation of Accompanying I. Piano accompanying of vocal and instrumental soloists. Rehearsal 2 hours per week. Prerequisite: Sophomore standing and MUAP 210V. May be repeated for up to 2 hours of degree credit.

**MUEN 2551. Percussion Ensemble II (Sp, Su). 1 Hour.**

Continuation of Percussion Ensemble I. Study and performance of ensemble music for multiple percussion instruments. Rehearsal 2 hours per week. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

**MUEN 2561. Musical Theater Orchestra II (Irregular). 1 Hour.**

Instrumental ensemble with focus on the preparation and performance of musical theater pit orchestra music, in conjunction with UA Theater's mainstage musical. Admission by audition or director's approval. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

**MUEN 2581. Chamber Choir II (Sp, Fa). 1 Hour.**

Continuation of Chamber Choir I. Study and performance of vocal chamber music. Rehearsal 2 hours per week for 1 hour of credit. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

**MUEN 2591. Women's Chorus II (Sp, Fa). 1 Hour.**

Continuation of Women's Chorus I. Select performance-based choral ensemble designed to improve individual and collective vocal skills, develop sight-reading skills, improve the individual's grasp of the essential elements of music, and expose students to repertory of the greater treble chorus canon. Admission by audition or director's consent. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

**MUEN 2691. Wind Ensemble II (Sp, Fa). 1 Hour.**

Large ensemble setting performing orchestral wind and symphonic band literature with emphasis on high performance standards through style and interpretation. Concerts of high artistic merit which serve the campus community and general public are required. Admission is by audition. Corequisite: Lab component. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

**MUEN 2711. Flute Ensemble II (Sp, Fa). 1 Hour.**

Continuation of Flute Ensemble I. Study and performance of music for multiple flutes, including trios, quartets, quintets, and flute choir. Rehearsal 2 hours per week. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

**MUEN 2721. Clarinet Ensemble II (Sp, Fa). 1 Hour.**

Continuation of Clarinet Ensemble I. Study and performance of music for multiple clarinets, including trios, quartets, quintets, and clarinet choir. Rehearsal 2 hours per week. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

**MUEN 2731. Saxophone Ensemble II (Sp, Fa). 1 Hour.**

Continuation of Saxophone Ensemble I. Study and performance of music for multiple saxophones, including trios, quartets, quintets, and saxophone choir. Rehearsal 3 hours per week. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

**MUEN 2751. Trumpet Ensemble II (Sp, Fa). 1 Hour.**

Continuation of Trumpet Ensemble I. Study and performance of music for multiple trumpets, including trios, quartets, quintets, and trumpet choir. Rehearsal 2 hours per week. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

**MUEN 2761. New Music Ensemble II (Sp, Fa). 1 Hour.**

Continuation of New Music Ensemble I. Small, select ensemble with emphasis on music written in the last hundred years, especially by important living composers. Focus on audience engagement through high performance standards, unconventional settings, and programs unique to the region. Off-campus appearances and outreach activities are required. Admission by consent. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

**MUEN 2771. Trombone Ensemble II (Sp, Fa). 1 Hour.**

Continuation of Trombone Ensemble I. Study and performance of music for multiple trombones, including trios, quartets, quintets, and trombone choir. Rehearsal 2 hours per week. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

**MUEN 2781. Tuba Ensemble II (Sp, Fa). 1 Hour.**

Continuation of Tuba Ensemble I. Study and performance of music for multiple combinations of tuba and euphonium, including trios, quartets, quintets, and low brass choir. Rehearsal 2 hours per week. Prerequisite: Sophomore standing. May be repeated for up to 2 hours of degree credit.

**MUEN 3341. Collegium Musicum III (Irregular). 1 Hour.**

Continuation of Collegium Musicum II. Performance of early music various combinations of instruments and/or voices. Two hours rehearsal weekly. Prerequisite: Junior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 3401. Opera Theatre III (Sp, Fa). 1 Hour.**

Continuation of Opera Theatre II. Study of opera through performances of scenes, chamber and major operatic production. Admission with director's approval. Prerequisite: Junior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 3411. Men's Chorus III (Sp, Fa). 1 Hour.**

Continuation of Men's Chorus II. Performance-based choral ensemble designed to improve individual and collective vocal skills, develop sight-reading skills, improve the individual's grasp of the essential elements of music, and expose students to repertory of the greater men's chorus canon. Admission is open to any male student on campus. Prerequisite: Junior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 3421. Inspirational Chorale III (Sp, Fa). 1 Hour.**

Continuation of Inspirational Chorale II. Performance of African American literature with particular emphasis on Negro spirituals, traditional/contemporary gospel music, and sacred world music. Rehearsal 3 hours per week. Admission with director's approval. Prerequisite: Junior standing; by audition and approval of director. May be repeated for up to 2 hours of degree credit.

**MUEN 3431. Symphony Orchestra III (Sp, Fa). 1 Hour.**

Continuation of Symphony Orchestra II. Large, select orchestral ensemble setting with a focus on the study and performance of a range of symphonic literature. Emphasis on high artistic standards through style and interpretation. Enrollment limited to more experienced players; by audition only. Prerequisite: Junior standing; director's consent. May be repeated for up to 2 hours of degree credit.

**MUEN 3441. Marching Band III (Fa). 1 Hour.**

Continuation of Marching Band II. Large ensemble performs at football games. Emphasis on high performance standards and a variety of performing styles. Rehearsal 8 hours per week. May be repeated for up to 2 hours of degree credit.

**MUEN 3451. Schola Cantorum III (Sp, Fa). 1 Hour.**

Continuation of Schola Cantorum II. Large, select choral ensemble with focus on the study and performance of a range of choral literature. Emphasis on high artistic standards through style and interpretation. Enrollment limited to more experienced singers; by audition only. Prerequisite: Junior standing and director's consent. May be repeated for up to 2 hours of degree credit.

**MUEN 3461. Wind Symphony III (Sp, Fa). 1 Hour.**

Continuation of Wind Symphony II. Large ensemble setting with emphasis on performing wind band literature and enhancing the musicianship of members. Focus on performance standards through style and interpretation. Concerts of high artistic merit which serve the campus community and general public are required. Admission by audition. Prerequisite: Junior standing and director's consent. May be repeated for up to 2 hours of degree credit.

**MUEN 3471. Jazz Performance Laboratory III (Sp, Fa). 1 Hour.**

Continuation of Jazz Performance Lab II. Training in the various styles of jazz and popular music. Rehearsal 3 hours per week. Admission by audition. Prerequisite: Junior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 3481. Campus Band III (Sp). 1 Hour.**

Continuation of Campus Band II. Large ensemble setting with emphasis on performing wind band literature and enhancing the musicianship of members. Focus on performance standards through style and interpretation. Concerts of artistic merit which serve the campus community and general public may be required. Admission is by audition or special approval. Corequisite: Lab component. Prerequisite: Junior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 3491. Concert Band III (Sp). 1 Hour.**

Continuation of Concert Band II. Large ensemble setting with emphasis on performing wind band literature and enhancing the musicianship of members. Focus on performance standards through style and interpretation. Concerts of artistic merit which serve the campus community and general public may be required. Admission is by audition or special approval. Corequisite: Lab component. Prerequisite: Junior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 3501. Chamber Music III (Sp, Fa). 1 Hour.**

Continuation of Chamber Music II. Performance of small ensemble music for any combination of instruments and/or voice. Rehearsal 3 hours per week. Prerequisite: Junior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 3511. Symphonic Band III (Sp). 1 Hour.**

Continuation of Symphonic Band II. Large ensemble setting with emphasis on performing wind band literature and enhancing the musicianship of members. Focus on performance standards through style and interpretation. Concerts of artistic merit which serve the campus community and general public are required. Admission is by audition or special approval. Prerequisite: Junior standing and director's consent. May be repeated for up to 2 hours of degree credit.

**MUEN 3521. Woodwind Quintet III (Sp, Fa). 1 Hour.**

Continuation of Woodwind Quintet II. Study and performance of music for woodwind quintet. Weekly coaching will emphasize intonation, blend, stylistic awareness, and ensemble precision. Repertoire ranges from the 18th to the 20th centuries. 3 hours of rehearsals weekly. Prerequisite: Junior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 3541. Accompanying III (Sp, Fa). 1 Hour.**

Continuation of Accompanying II. Piano accompanying of vocal and instrumental soloists. Rehearsal 2 hours per week. Prerequisite: Junior standing and MUAP 310V. May be repeated for up to 2 hours of degree credit.

**MUEN 3551. Percussion Ensemble III (Sp, Fa). 1 Hour.**

Continuation of Percussion Ensemble II. Study and performance of ensemble music for multiple percussion instruments. Rehearsal 2 hours per week. Prerequisite: Junior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 3561. Musical Theater Orchestra III (Irregular). 1 Hour.**

Instrumental ensemble with focus on the preparation and performance of musical theater pit orchestra music, in conjunction with UA Theater's mainstage musical. Admission by audition or director's approval. Prerequisite: Junior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 3581. Chamber Choir III (Sp, Fa). 1 Hour.**

Continuation of Chamber Choir II. Study and performance of vocal chamber music. Rehearsal 2 hours per week for 1 hour of credit. Prerequisite: Junior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 3591. Women's Chorus III (Sp, Fa). 1 Hour.**

Continuation of Women's Chorus II. Select performance-based choral ensemble designed to improve individual and collective vocal skills, develop sight-reading skills, improve the individual's grasp of the essential elements of music, and expose students to repertory of the greater treble chorus canon. Admission by audition or director's consent. Prerequisite: Junior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 3691. Wind Ensemble III (Sp, Fa). 1 Hour.**

Continuation of Wind Ensemble II. Large ensemble setting performing orchestral wind and symphonic band literature with emphasis on high performance standards through style and interpretation. Concerts of high artistic merit which serve the campus community and general public are required. Admission is by audition. Corequisite: Lab component. Prerequisite: Junior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 3711. Flute Ensemble III (Sp, Fa). 1 Hour.**

Continuation of Flute Ensemble II. Study and performance of music for multiple flutes, including trios, quartets, quintets, and flute choir. Rehearsal 2 hours per week. Prerequisite: Junior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 3721. Clarinet Ensemble III (Sp, Fa). 1 Hour.**

Continuation of Clarinet Ensemble II. Study and performance of music for multiple clarinets, including trios, quartets, quintets, and clarinet choir. Rehearsal 2 hours per week. Prerequisite: Junior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 3731. Saxophone Ensemble III (Sp, Fa). 1 Hour.**

Continuation of Saxophone Ensemble II. Study and performance of music for multiple saxophones, including trios, quartets, quintets, and saxophone choir. Rehearsal 3 hours per week. Prerequisite: Junior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 3751. Trumpet Ensemble III (Sp, Fa). 1 Hour.**

Continuation of Trumpet Ensemble II. Study and performance of music for multiple trumpets, including trios, quartets, quintets, and trumpet choir. Rehearsal 2 hours per week. Prerequisite: Junior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 3761. New Music Ensemble III (Sp, Fa). 1 Hour.**

Continuation of New Music Ensemble II. Small, select ensemble with emphasis on music written in the last hundred years, especially by important living composers. Focus on audience engagement through high performance standards, unconventional settings, and programs unique to the region. Off-campus appearances and outreach activities are required. Admission by consent. Prerequisite: Junior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 3771. Trombone Ensemble III (Sp, Fa). 1 Hour.**

Continuation of Trombone Ensemble II. Study and performance of music for multiple trombones, including trios, quartets, quintets, and trombone choir. Rehearsal 2 hours per week. Prerequisite: Junior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 3781. Tuba Ensemble III (Sp, Fa). 1 Hour.**

Continuation of Tuba Ensemble II. Study and performance of music for multiple combinations of tuba and euphonium, including trios, quartets, quintets, and low brass choir. Rehearsal 2 hours per week. Prerequisite: Junior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 4341. Collegium Musicum IV (Irregular). 1 Hour.**

Continuation of Collegium Musicum III. Performance of early music various combinations of instruments and/or voices. Two hours rehearsal weekly. Prerequisite: Senior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 4401. Opera Theatre IV (Sp, Fa). 1 Hour.**

Continuation of Opera Theatre III. Study of opera through performances of scenes, chamber and major operatic production. Admission with director's approval. Prerequisite: Senior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 4411. Men's Chorus IV (Sp, Fa). 1 Hour.**

Continuation of Men's Chorus III. Performance-based choral ensemble designed to improve individual and collective vocal skills, develop sight-reading skills, improve the individual's grasp of the essential elements of music, and expose students to repertory of the greater men's chorus canon. Admission is open to any male student on campus. Prerequisite: Senior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 4421. Inspirational Chorale IV (Sp, Fa). 1 Hour.**

Continuation of Inspirational Chorale III. Performance of African American literature with particular emphasis on Negro spirituals, traditional/contemporary gospel music, and sacred world music. Rehearsal 3 hours per week. Admission with director's approval. Prerequisite: Senior standing, audition and approval of director. May be repeated for up to 2 hours of degree credit.

**MUEN 4431. Symphony Orchestra IV (Sp, Fa). 1 Hour.**

Continuation of Symphony Orchestra III. Large, select orchestral ensemble setting with a focus on the study and performance of a range of symphonic literature. Emphasis on high artistic standards through style and interpretation. Enrollment limited to more experienced players; by audition only. Corequisite: Lab component. Prerequisite: Senior standing; director's consent. May be repeated for up to 2 hours of degree credit.

**MUEN 4441. Marching Band IV (Fa). 1 Hour.**

Continuation of Marching Band III. Large ensemble performs at football games. Emphasis on high performance standards and a variety of performing styles. Rehearsal 8 hours per week. May be repeated for up to 2 hours of degree credit.

**MUEN 4451. Schola Cantorum IV (Sp, Fa). 1 Hour.**

Continuation of Schola Cantorum III. Large, select choral ensemble with focus on the study and performance of a range of choral literature. Emphasis on high artistic standards through style and interpretation. Enrollment limited to more experienced singers; by audition only. Prerequisite: Senior standing and director's consent. May be repeated for up to 2 hours of degree credit.

**MUEN 4461. Wind Symphony IV (Sp, Fa). 1 Hour.**

Continuation of Wind Symphony III. Large ensemble setting with emphasis on performing wind band literature and enhancing the musicianship of members. Focus on performance standards through style and interpretation. Concerts of high artistic merit which serve the campus community and general public are required. Admission by audition. Prerequisite: Senior standing and director's consent. May be repeated for up to 2 hours of degree credit.

**MUEN 4471. Jazz Performance Laboratory IV (Sp, Fa). 1 Hour.**

Continuation of Jazz Performance Lab III. Training in the various styles of jazz and popular music. Rehearsal 3 hours per week. Admission by audition. Prerequisite: Senior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 4481. Campus Band IV (Sp). 1 Hour.**

Continuation of Campus Band III. Large ensemble setting with emphasis on performing wind band literature and enhancing the musicianship of members. Focus on performance standards through style and interpretation. Concerts of artistic merit which serve the campus community and general public may be required. Admission is by audition or special approval. Corequisite: lab component. Prerequisite: Senior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 4491. Concert Band IV (Sp). 1 Hour.**

Continuation of Concert Band III. Large ensemble setting with emphasis on performing wind band literature and enhancing the musicianship of members. Focus on performance standards through style and interpretation. Concerts of artistic merit which serve the campus community and general public may be required. Admission is by audition or special approval. Corequisite: Lab component. Prerequisite: Senior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 4501. Chamber Music IV (Sp, Fa). 1 Hour.**

Continuation of Chamber Music III. Performance of small ensemble music for any combination of instruments and/or voice. Rehearsal 3 hours per week. Prerequisite: Senior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 4511. Symphonic Band IV (Sp). 1 Hour.**

Continuation of Symphonic Band III. Large ensemble setting with emphasis on performing wind band literature and enhancing the musicianship of members. Focus on performance standards through style and interpretation. Concerts of artistic merit which serve the campus community and general public are required. Admission is by audition or special approval. Corequisite: Lab component. Prerequisite: Senior standing and director's consent. May be repeated for up to 2 hours of degree credit.

**MUEN 4521. Woodwind Quintet IV (Sp, Fa). 1 Hour.**

Continuation of Woodwind Quintet III. Study and performance of music for woodwind quintet. Weekly coaching will emphasize intonation, blend, stylistic awareness, and ensemble precision. Repertoire ranges from the 18th to the 20th centuries. 3 hours of rehearsals weekly. Prerequisite: Senior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 4541. Accompanying IV (Sp, Fa). 1 Hour.**

Continuation of Accompanying III. Piano accompanying of vocal and instrumental soloists. Rehearsal 2 hours per week. Prerequisite: Senior standing and MUAP 410V. May be repeated for up to 2 hours of degree credit.

**MUEN 4551. Percussion Ensemble IV (Sp, Fa). 1 Hour.**

Continuation of Percussion Ensemble III. Study and performance of ensemble music for multiple percussion instruments. Rehearsal 2 hours per week. Prerequisite: Senior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 4561. Musical Theater Orchestra IV (Irregular). 1 Hour.**

Instrumental ensemble with focus on the preparation and performance of musical theater pit orchestra music, in conjunction with UA Theater's mainstage musical. Admission by audition or director's approval. Prerequisite: Senior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 4581. Chamber Choir IV (Sp, Fa). 1 Hour.**

Continuation of Chamber Choir III. Study and performance of vocal chamber music. Rehearsal 2 hours per week for 1 hour of credit. Prerequisite: Senior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 4591. Women's Chorus IV (Sp, Fa). 1 Hour.**

Continuation of Women's Chorus III. Select performance-based choral ensemble designed to improve individual and collective vocal skills, develop sight-reading skills, improve the individual's grasp of the essential elements of music, and expose students to repertory of the greater treble chorus canon. Admission by audition or director's consent. Prerequisite: Senior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 4601. Opera Theatre V (Sp, Fa). 1 Hour.**

Continuation of Opera Theatre IV. Study of opera through performances of scenes, chamber and major operatic production. Admission with director's approval. Prerequisite: Two semesters of MUEN 4401. May be repeated for up to 2 hours of degree credit.

**MUEN 4611. Men's Chorus V (Sp, Fa). 1 Hour.**

Continuation of Men's Chorus IV. Performance-based choral ensemble designed to improve individual and collective vocal skills, develop sight-reading skills, improve the individual's grasp of the essential elements of music, and expose students to repertory of the greater men's chorus canon. Admission is open to any male student on campus. Prerequisite: Two credit hours of MUEN 4411. May be repeated for up to 2 hours of degree credit.

**MUEN 4621. Inspirational Chorale V (Sp, Fa). 1 Hour.**

Continuation of Inspirational Chorale IV. Performance of African American literature with particular emphasis on Negro spirituals, traditional/contemporary gospel music, and sacred world music. Rehearsal 3 hours per week. Admission with director's approval. Prerequisite: Two semesters of MUEN 4421. May be repeated for up to 2 hours of degree credit.

**MUEN 4631. Symphony Orchestra V (Sp, Fa). 1 Hour.**

Continuation of Symphony Orchestra IV. Large, select orchestral ensemble setting with a focus on the study and performance of a range of symphonic literature. Emphasis on high artistic standards through style and interpretation. Enrollment limited to more experienced players; by audition only. Prerequisite: Two semesters of MUEN 4431. May be repeated for up to 2 hours of degree credit.

**MUEN 4641. Collegium Musicum V (Irregular). 1 Hour.**

Continuation of Collegium Musicum IV. Performance of early music various combinations of instruments and/or voices. Two hours rehearsal weekly. Prerequisite: Two semesters of MUEN 4341. May be repeated for up to 2 hours of degree credit.

**MUEN 4651. Schola Cantorum V (Sp, Fa). 1 Hour.**

Continuation of Schola Cantorum IV. Large, select choral ensemble with focus on the study and performance of a range of choral literature. Emphasis on high artistic standards through style and interpretation. Enrollment limited to more experienced singers; by audition only. Prerequisite: Two semesters of MUEN 4451. May be repeated for up to 2 hours of degree credit.

**MUEN 4661. Wind Symphony V (Sp, Fa). 1 Hour.**

Continuation of Wind Symphony IV. Large ensemble setting with emphasis on performing wind band literature and enhancing the musicianship of members. Focus on performance standards through style and interpretation. Concerts of high artistic merit which serve the campus community and general public are required. Admission by audition. Corequisite: Lab component. Prerequisite: Two semesters of MUEN 4461. May be repeated for up to 2 hours of degree credit.

**MUEN 4671. Jazz Performance Laboratory V (Sp, Fa). 1 Hour.**

Continuation of Jazz Performance Laboratory IV. Training in the various styles of jazz and popular music. Rehearsal 3 hours per week. Admission by audition. Prerequisite: Two semesters of MUEN 4471. May be repeated for up to 2 hours of degree credit.

**MUEN 4681. Campus Band V (Sp). 1 Hour.**

Continuation of Wind Symphony IV. Large ensemble setting with emphasis on performing wind band literature and enhancing the musicianship of members. Focus on performance standards through style and interpretation. Concerts of high artistic merit which serve the campus community and general public are required. Admission by audition. Corequisite: Lab component. Prerequisite: Two semesters of MUEN 4461. May be repeated for up to 2 hours of degree credit.

**MUEN 4691. Wind Ensemble IV (Sp, Fa). 1 Hour.**

Continuation of Wind Ensemble III. Large ensemble setting performing orchestral wind and symphonic band literature with emphasis on high performance standards through style and interpretation. Concerts of high artistic merit which serve the campus community and general public are required. Admission is by audition. Corequisite: Lab component. Prerequisite: Senior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 4711. Flute Ensemble IV (Sp, Fa). 1 Hour.**

Continuation of Flute Ensemble III. Study and performance of music for multiple flutes, including trios, quartets, quintets, and the flute choir. Rehearsal 2 hours per week. Prerequisite: Senior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 4721. Clarinet Ensemble IV (Sp, Fa). 1 Hour.**

Continuation of Clarinet Ensemble III. Study and performance of music for multiple clarinets, including trios, quartets, quintets, and clarinet choir. Rehearsal 2 hours per week. Prerequisite: Senior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 4731. Saxophone Ensemble IV (Sp, Fa). 1 Hour.**

Continuation of Saxophone Ensemble III. Study and performance of music for multiple saxophones, including trios, quartets, quintets, and saxophone choir. Rehearsal 3 hours per week. Prerequisite: Senior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 4751. Trumpet Ensemble IV (Sp, Fa). 1 Hour.**

Continuation of Trumpet Ensemble III. Study and performance of music for multiple trumpets, including trios, quartets, quintets, and trumpet choir. Rehearsal 2 hours per week. Prerequisite: Senior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 4761. New Music Ensemble IV (Sp, Fa). 1 Hour.**

Continuation of New Music Ensemble III. Small, select ensemble with emphasis on music written in the last hundred years, especially by important living composers. Focus on audience engagement through high performance standards, unconventional settings, and programs unique to the region. Off-campus appearances and outreach activities are required. Admission by consent. Prerequisite: Senior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 4771. Trombone Ensemble IV (Irregular). 1 Hour.**

Continuation of Trombone Ensemble III. Study and performance of music for multiple trombones, including trios, quartets, quintets, and trombone choir. Rehearsal 2 hours per week. Prerequisite: Senior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 4781. Tuba Ensemble IV (Sp, Fa). 1 Hour.**

Continuation of Tuba Ensemble III. Study and performance of music for multiple combinations of tuba and euphonium, including trios, quartets, quintets, and low brass choir. Rehearsal 2 hours per week. Prerequisite: Senior standing. May be repeated for up to 2 hours of degree credit.

**MUEN 4801. Chamber Music V (Sp, Fa). 1 Hour.**

Continuation of Chamber Music IV. Performance of small ensemble music for any combination of instruments and/or voice. Rehearsal 3 hours per week. Prerequisite: Two semesters of MUEN 4501. May be repeated for up to 2 hours of degree credit.

**MUEN 4811. Symphonic Band V (Sp). 1 Hour.**

Continuation of Symphonic Band IV. Large ensemble setting with emphasis on performing wind band literature and enhancing the musicianship of members. Focus on performance standards through style and interpretation. Concerts of artistic merit which serve the campus community and general public are required. Admission is by audition or special approval. Corequisite: Lab component. Prerequisite: Two semesters of MUEN 4511 and director's consent. May be repeated for up to 2 hours of degree credit.

**MUEN 4821. Woodwind Quintet V (Sp, Fa). 1 Hour.**

Continuation of Woodwind Quintet IV. Study and performance of music for woodwind quintet. Weekly coaching will emphasize intonation, blend, stylistic awareness, and ensemble precision. Repertoire ranges from the 18th to the 20th centuries. 3 hours of rehearsals weekly. Prerequisite: Two semesters of MUEN 4521. May be repeated for up to 2 hours of degree credit.

**MUEN 4831. Concert Band V (Sp). 1 Hour.**

Continuation of Concert Band IV. Large ensemble setting with emphasis on performing wind band literature and enhancing the musicianship of members. Focus on performance standards through style and interpretation. Concerts of artistic merit which serve the campus community and general public may be required. Admission is by audition or special approval. Corequisite: Lab component. Prerequisite: Two semesters of MUEN 4491. May be repeated for up to 2 hours of degree credit.

**MUEN 4841. Accompanying V (Sp, Fa). 1 Hour.**

Continuation of Accompanying IV. Piano accompanying of vocal and instrumental soloists. Rehearsal 2 hours per week. Prerequisite: Two semesters of MUEN 4541. May be repeated for up to 2 hours of degree credit.

**MUEN 4851. Percussion Ensemble V (Sp, Fa). 1 Hour.**

Continuation of Percussion Ensemble IV. Study and performance of ensemble music for multiple percussion instruments. Rehearsal 2 hours per week. Prerequisite: Two semesters of MUEN 4551. May be repeated for up to 2 hours of degree credit.

**MUEN 4861. Wind Ensemble V (Sp, Fa). 1 Hour.**

Continuation of Wind Ensemble IV. Large ensemble setting performing orchestral wind and symphonic band literature with emphasis on high performance standards through style and interpretation. Concerts of high artistic merit which serve the campus community and general public are required. Admission is by audition. Corequisite: Lab component. Prerequisite: Two semesters of MUEN 4691. May be repeated for up to 2 hours of degree credit.

**MUEN 4881. Chamber Choir V (Sp, Fa). 1 Hour.**

Continuation of Chamber Choir IV. Study and performance of vocal chamber music. Rehearsal 2 hours per week for 1 hour of credit. Prerequisite: Two semesters of MUEN 4581. May be repeated for up to 2 hours of degree credit.

**MUEN 4891. Women's Chorus V (Sp, Fa). 1 Hour.**

Continuation of Women's Chorus IV. Select performance-based choral ensemble designed to improve individual and collective vocal skills, develop sight-reading skills, improve the individual's grasp of the essential elements of music, and expose students to repertory of the greater treble chorus canon. Admission by audition or director's consent. Prerequisite: Two semesters of MUEN 4591. May be repeated for up to 2 hours of degree credit.

**MUEN 4911. Flute Ensemble V (Sp, Fa). 1 Hour.**

Continuation of Flute Ensemble IV. Study and performance of music for multiple flutes, including trios, quartets, quintets, and flute choir. Rehearsal 2 hours per week. Prerequisite: Two semesters of MUEN 4711. May be repeated for up to 2 hours of degree credit.



**MUEN 4921. Clarinet Ensemble V (Sp, Fa). 1 Hour.**

Continuation of Clarinet Ensemble IV. Study and performance of music for multiple clarinets, including trios, quartets, quintets, and clarinet choir. Rehearsal 2 hours per week. Prerequisite: Two semesters of MUEN 4721. May be repeated for up to 2 hours of degree credit.

**MUEN 4931. Saxophone Ensemble V (Sp, Fa). 1 Hour.**

Continuation of Saxophone Ensemble IV. Study and performance of music for multiple saxophones, including trios, quartets, quintets, and saxophone choir. Rehearsal 3 hours per week. Prerequisite: Two semesters of MUEN 4731. May be repeated for up to 2 hours of degree credit.

**MUEN 4941. Marching Band V (Fa). 1 Hour.**

Continuation of Marching Band IV. Large ensemble performs at football games. Emphasis on high performance standards and a variety of performing styles. Rehearsal 8 hours per week. Prerequisite: Two semesters of MUEN 4441. May be repeated for up to 2 hours of degree credit.

**MUEN 4951. Trumpet Ensemble V (Sp, Fa). 1 Hour.**

Continuation of Trumpet Ensemble IV. Study and performance of music for multiple trumpets, including trios, quartets, quintets, and trumpet choir. Rehearsal 2 hours per week. Prerequisite: Two semesters of MUEN 4751. May be repeated for up to 2 hours of degree credit.

**MUEN 4961. New Music Ensemble V (Sp, Fa). 1 Hour.**

Continuation of New Music Ensemble IV. Small, select ensemble with emphasis on music written in the last hundred years, especially by important living composers. Focus on audience engagement through high performance standards, unconventional settings, and programs unique to the region. Off-campus appearances and outreach activities are required. Admission by consent. Prerequisite: Two semesters of MUEN 4761. May be repeated for up to 2 hours of degree credit.

**MUEN 4971. Trombone Ensemble V (Sp, Fa). 1 Hour.**

Continuation of Trombone Ensemble IV. Study and performance of music for multiple trombones, including trios, quartets, quintets, and trombone choir. Rehearsal 2 hours per week. Prerequisite: Two semesters of MUEN 4771. May be repeated for up to 2 hours of degree credit.

**MUEN 4981. Tuba Ensemble V (Sp, Fa). 1 Hour.**

Continuation of Tuba Ensemble IV. Study and performance of music for multiple combinations of tuba and euphonium, including trios, quartets, quintets, and low brass choir. Rehearsal 2 hours per week. Prerequisite: Two semesters of MUEN 4781. May be repeated for up to 2 hours of degree credit.

**MUEN 5401. Opera Theatre (Sp, Fa). 1 Hour.**

Study of opera through performances of scenes, chamber and major operatic production. Admission with director's approval. May be repeated for degree credit.

**MUEN 5411. Men's Chorus (Sp, Fa). 1 Hour.**

Performance-based choral ensemble designed to improve individual and collective vocal skills, develop sight-reading skills, improve the individual's grasp of the essential elements of music, and expose students to repertory of the greater men's chorus canon. Admission is open to any male student on campus. May be repeated for degree credit.

**MUEN 5421. Inspirational Chorale (Sp, Fa). 1 Hour.**

Performance of African-American literature with particular emphasis on Negro spirituals, traditional/contemporary gospel music and sacred world music. Rehearsal 3 hours per week. Admission with director's approval. May be repeated for up to 2 hours of degree credit.

**MUEN 5431. Symphony Orchestra (Sp, Fa). 1 Hour.**

Rehearsal 3 hours per week with extra rehearsals at director's discretion. Admission with director's approval. Corequisite: Lab component. May be repeated for degree credit.

**MUEN 5441. Marching Band (Fa). 1 Hour.**

Rehearsal 8 hours per week. Admission with director's approval. May be repeated for degree credit.

**MUEN 5451. Schola Cantorum (Sp, Fa). 1 Hour.**

Vocal ensemble limited to the more experienced singers. Rehearsal 5 hours per week. Admission with director's approval. May be repeated for degree credit.

**MUEN 5461. Wind Symphony (Sp, Fa). 1 Hour.**

Rehearsal 3 to 5 hours per week. Admission by audition and approval of the conductor. May be repeated for degree credit.

**MUEN 5471. Jazz Performance Laboratory (Sp, Fa). 1 Hour.**

Training in the various styles of jazz and popular music. Rehearsal 3 hours per week. Admission by audition. May be repeated for degree credit.

**MUEN 5481. Campus Band (Sp). 1 Hour.**

Rehearsal 3 hours per week. Admission by audition and approval of the conductor. May be repeated for degree credit.

**MUEN 5491. Concert Band (Sp). 1 Hour.**

Large ensemble setting with emphasis on performing wind band literature and enhancing the musicianship of members. Focus on performance standards through style and interpretation. Concerts of artistic merit which serve the campus community and general public may be required. Admission is by audition or special approval. Corequisite: Lab component. May be repeated for up to 2 hours of degree credit.

**MUEN 5501. Chamber Music (Sp, Fa). 1 Hour.**

Performance of small ensemble music for any combination of instruments and/or voice. Rehearsal 3 hours per week. May be repeated for degree credit.

**MUEN 5511. Symphonic Band (Sp). 1 Hour.**

Rehearsal 3 hours per week. Admission by audition and approval of the conductor. May be repeated for degree credit.

**MUEN 5521. Woodwind Quintet (Sp, Fa). 1 Hour.**

Study and performance of music for woodwind quintet. Weekly coaching will emphasize intonation, blend, stylistic awareness, and ensemble precision. Repertoire ranges from the 18th to the 20th centuries. 3 hours of rehearsals weekly. May be repeated for degree credit.

**MUEN 5541. Accompanying (Sp, Fa). 1 Hour.**

Piano accompanying of vocal and instrumental soloists. Rehearsal 2 hours per week. Prerequisite: MUAP 110V. May be repeated for degree credit.

**MUEN 5551. Percussion Ensemble (Sp, Su). 1 Hour.**

Study and performance of ensemble music for multiple percussion instruments. Rehearsal 2 hours per week. May be repeated for degree credit.

**MUEN 5561. Musical Theater Orchestra (Irregular). 1 Hour.**

Instrumental ensemble with focus on the preparation and performance of musical theater pit orchestra music, in conjunction with UA Theater's mainstage musical. Admission by audition or director's approval. Prerequisite: Graduate standing. May be repeated for up to 2 hours of degree credit.

**MUEN 5591. Women's Chorus (Sp, Fa). 1 Hour.**

Select performance-based choral ensemble designed to improve individual and collective vocal skills, develop sight-reading skills, improve the individual's grasp of the essential elements of music, and expose students to repertory of the greater treble chorus canon. Admission by audition or director's consent. May be repeated for up to 2 hours of degree credit.

**MUEN 5691. WIND ENSEMBLE (Sp, Fa). 1 Hour.**

Large ensemble setting performing orchestral wind and symphonic band literature with emphasis on high performance standards through style and interpretation. Concerts of high artistic merit which serve the campus community and general public are required. Admission is by audition. Corequisite: Lab component. May be repeated for up to 2 hours of degree credit.

**MUEN 5711. Flute Ensemble (Sp, Fa). 1 Hour.**

Study and performance of music for multiple flutes, including trios, quartets, quintets, and flute choir. Rehearsal 2 hours per week. May be repeated for degree credit.

**MUEN 5721. Clarinet Ensemble (Sp, Fa). 1 Hour.**

Study and performance of music for multiple clarinets, including trios, quartets, quintets, and clarinet choir. Rehearsal 2 hours per week. May be repeated for degree credit.

**MUEN 5731. Saxophone Ensemble (Sp, Fa). 1 Hour.**

Study and performance of music for multiple saxophones, including trios, quartets, quintets, and saxophone choir. Rehearsal 3 hours per week. May be repeated for degree credit.

**MUEN 5751. Trumpet Ensemble (Sp, Fa). 1 Hour.**

Study and performance of music for multiple trumpets, including trios, quartets, quintets, and trumpet choir. Rehearsal 2 hours per week. May be repeated for degree credit.

**MUEN 5761. New Music Ensemble (Sp, Fa). 1 Hour.**

Small, select ensemble with emphasis on music written in the last hundred years, especially by important living composers. Focus on audience engagement through high performance standards, unconventional settings, and programs unique to the region. Off-campus appearances and outreach activities are required. Admission by consent.

**MUEN 5771. Trombone Ensemble (Irregular). 1 Hour.**

Study and performance of music for multiple trombones, including trios, quartets, quintets, and trombone choir. Rehearsal 2 hours per week. May be repeated for degree credit.

**MUEN 5781. Tuba Ensemble (Sp, Fa). 1 Hour.**

Study and performance of music for multiple combinations of tuba and euphonium, including trios, quartets, quintets, and low brass choir. Rehearsal 2 hours per week. May be repeated for degree credit.

## Music History (MUHS)

### Courses

**MUHS 3703. History of Music to 1750 (Fa). 3 Hours.**

Survey of history of music in western culture from ancient Greece to 1750. Lecture 3 hours, listening/quiz laboratory 1 hour per week. Corequisite: Lab component. Prerequisite: MLIT 1013 or MLIT 1013H and MUTH 2603; Music major pursuing a degree of Bachelor of Arts or Honors Bachelor of Arts or Bachelor of Music or Honors Bachelor of Music or Music minors or with instructor's consent.

**MUHS 3713. History of Music from 1750 to Present (Sp). 3 Hours.**

Survey of the history of music in western culture from 1750 to present. Lecture 3 hours, listening/quiz laboratory 1 hour per week. Corequisite: Lab component. Prerequisite: MLIT 1013 or MLIT 1013H and MUTH 2603 and MUHS 3703; Music major pursuing a degree of Bachelor of Arts or Honors Bachelor of Arts or a degree of Bachelor of Music or Honors Bachelor of Music or Music minors or with instructor's consent.

**MUHS 398VH. Honors Independent Studies (Sp, Fa). 1-2 Hour.**

Independent projects in music history and literature. One hour credit per semester. Open to undergraduates in honors. May be repeated for up to 2 hours of degree credit.

**MUHS 4253. Special Topics in Music History (Sp, Fa). 3 Hours.**

Specialized topics not extensively covered in MUHS 3703 or MUHS 3713. Satisfactory completion of the term paper in this class will fulfill the Fulbright College writing requirement. Prerequisite: MUHS 3703 and MUHS 3713. May be repeated for degree credit.

**MUHS 4623. Music History Review (Fa). 3 Hours.**

Review of the central data and concepts of music history, with emphasis on individual periods as needed by students enrolled. Credit in this course may not count toward the Master of Music or Master of Education degree.

**MUHS 4703. Survey of String Literature (Even years, Fa). 3 Hours.**

A survey of solo and chamber music literature involving stringed instruments. Prerequisite: MUAP 110V and MUTH 3613.

**MUHS 4733. Survey of Symphonic Literature (Even years, Sp). 3 Hours.**

A survey of the symphonic literature from its beginning to the present.

**MUHS 4763. Survey of Vocal Literature I (Even Years, Fa). 3 Hours.**

A survey of concert literature for the solo voice.

**MUHS 4773. Survey of Vocal Literature II (Odd years, Sp). 3 Hours.**

A survey of concert literature for the solo voice. Prerequisite: MUHS 4763.

**MUHS 4793. Band Literature (Irregular). 3 Hours.**

A study of literature written for performance by concert band, symphonic band, and wind ensemble, representative of the following five periods in Music History: Renaissance (1420-1600), Baroque (1600-1750), Classical (1750-1820), Romantic (1820-1900), and Contemporary (1900-present).

**MUHS 4803. Survey of Keyboard Literature I (Even years, Fa). 3 Hours.**

A survey of the piano works of outstanding composers. Prerequisite: MUAP 110V.

**MUHS 4813. Survey of Keyboard Literature II (Odd years, Sp). 3 Hours.**

A survey of the piano works of outstanding composers. Prerequisite: MUHS 4803.

**MUHS 489V. Seminar in Music History (Irregular). 1-4 Hour.**

Subject matter not covered in other courses. With permission, may be repeated for credit if topics are different. May be repeated for degree credit.

**MUHS 498V. Senior Thesis (Sp, Su, Fa). 1-6 Hour.****MUHS 5563. Collaborative Piano Literature I, Woodwind and Brass Repertoire (Even years, Fa). 3 Hours.**

Survey of collaborative literature for piano and wind or brass instruments. Focus on music for the collaborative duo (instrument and piano) including sonatas and concerti.

**MUHS 5573. Collaborative Piano Literature II, String Repertoire (Odd years, Sp). 3 Hours.**

Survey of collaborative literature for the piano. Focus on the repertoire of sonatas, concerti and concert works for the piano and instrument (violin, viola, cello, and double bass).

**MUHS 5722. Directed Studies in Music Literature I (Sp, Fa). 2 Hours.**

Research in music literature in the performance field of the individual student.

**MUHS 5732. Directed Studies in Music Literature II (Sp, Fa). 2 Hours.**

Research in music literature in the performance field of the individual student. Prerequisite: MUHS 5722.

**MUHS 5753. Seminar in Medieval & Early Renaissance (Irregular). 3 Hours.**

Intensive studies in music of Western Europe from early Christian times through the 15th century.

**MUHS 5773. Seminar in Music of the 18th Century (Irregular). 3 Hours.**

Intensive studies of late Baroque and Classical music.

**MUHS 5783. Seminar in Music of the 19th Century (Odd years, Sp). 3 Hours.**

Intensive studies in music of the 19th century.

**MUHS 5793. Seminar in Music of the 20th Century (Even years, Fa). 3 Hours.**

Intensive studies in 20th century music.

**MUHS 5903. Seminar in Musicology (Sp, Fa). 3 Hours.**

Focuses on specialized topics and repertoires within the history of Western music and introduces students to musicological approaches to these subjects. May be repeated for degree credit.

**MUHS 5943. Seminar in Opera (Irregular). 3 Hours.**

Intensive studies in operatic literature.

**MUHS 5952. Choral History and Literature I (Irregular). 2 Hours.**

Detailed study of choral history and literature from Gregorian chant to J.S. Bach.

**MUHS 5962. Choral History and Literature II (Irregular). 2 Hours.**

Detailed study of choral history and literature from J.S. Bach to the present.

**MUHS 5973. Seminar in Bibliography and Methods of Research (Fa). 3 Hours.**

A survey of the methods and materials of musical research, including bibliography, methods of analysis, and style in the presentation of research results. Open to graduate students and to juniors in Honors.

**MUHS 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Master's Thesis. May be repeated for degree credit.

## Music Literature (MLIT) Courses

**MLIT 1003. Experiencing Music (ACTS Equivalency = MUSC 1003) (Sp, Su, Fa). 3 Hours.**

Examines how music reflects and impacts culture while familiarizing students with various musical styles, forms and ideas. Develops listening skills and introduces basic music vocabulary and fundamentals.

**MLIT 1003H. Honors Experiencing Music (Sp, Fa). 3 Hours.**

Examines how music reflects and impacts culture while familiarizing students with various musical styles, forms and ideas. Develops listening skills and introduces basic music vocabulary and fundamentals.

This course is equivalent to MLIT 1003.

**MLIT 1013. Music and Society (Sp, Fa). 3 Hours.**

Introduction to academic study of Western art music, jazz, popular music, and world music. Students will gain experience in guided listening and in reading, writing, and critical thinking about musical cultures and their roles in society. Required for music majors. Prerequisite: Music major or music minor or instructor consent.

**MLIT 1013H. Honors Music and Society (Sp, Fa). 3 Hours.**

Introduction to academic study of Western art music, jazz, popular music, and world music. Students will gain experience in guided listening and in reading, writing, and critical thinking about musical cultures and their roles in society. Required for music majors. Prerequisite: Music major or music minor, honors standing or instructor consent.

This course is equivalent to MLIT 1013.

**MLIT 1333. Popular Music (Sp). 3 Hours.**

Covers the history of popular music during the 20th and 21st centuries within its social and cultural contexts. Examines the origins, evolution, and stylistic features of prominent popular genres, such as country, rock, blues, hip hop, and soul.

## Music Pedagogy (MUPD) Courses

**MUPD 3801. Conducting I (Fa). 1 Hour.**

A study of the elementary techniques of conducting instrumental and choral groups. Prerequisite: MUTH 2603.

**MUPD 3811. Conducting II: Instrumental Music (Sp). 1 Hour.**

Continuation of study of the technique of conducting instrumental music groups. Prerequisite: MUPD 3801.

**MUPD 3861. Conducting II: Vocal Music (Sp). 1 Hour.**

Continuation of study of conducting with emphasis on techniques of choral conducting. Prerequisite: MUPD 3801.

**MUPD 3871. Reed-Making (Fa). 1 Hour.**

The making of reeds for oboe, bassoon, or clarinet, including the processing of cane from tubes. May be repeated for up to 2 hours of degree credit.

**MUPD 477V. Special Topics in Pedagogy (Irregular). 1-6 Hour.**

Subject matter not covered in other sources. With permission, may be repeated for credit if topics are different. May be repeated for degree credit.

**MUPD 481V. Conducting (Sp, Fa). 1-4 Hour.**

Private lessons of 1/2 hour, and one hour conducting laboratory each week. Development of skills in conducting symphony, opera, oratorio, ballet and band repertoire. May be repeated for degree credit.

**MUPD 4863. Piano Pedagogy (Even years, Sp). 3 Hours.**

Analytical study and discussion of the various approaches to piano pedagogy and its application in individual/class instruction. Involves demonstration of principles through actual teaching of beginning, intermediate and upper level students.

**MUPD 499V. Special Workshop in Music (Sp, Su, Fa). 1-2 Hour.**

Presented by visiting master artist-teachers in various fields of music performance, teaching and composition. For this level it is expected that the prospective students are professionals in the given field seeking additional knowledge and insights from acknowledged professionals. May be repeated for up to 2 hours of degree credit.

**MUPD 5202. Voice Pedagogy I (Irregular). 2 Hours.**

Graduate-level study of the techniques and materials of teaching voice.

**MUPD 582V. Conducting (Sp, Fa). 1-2 Hour.**

Private lessons of 1/2 hour and 1 hour conducting laboratory each week. Development of skills in conducting symphony, choral, opera, oratorio, ballet, and band repertoire. May be repeated for up to 18 hours of degree credit.

**MUPD 584V. Opera Workshop Techniques (Sp, Fa). 1-2 Hour.**

A basic course in every phase of opera production, including staging, set design, music coaching, voice casting, and translation.

**MUPD 586V. Woodwind Techniques (Sp, Fa). 1-2 Hour.**

A continuation of the undergraduate courses in techniques and materials for elementary and secondary school music teaching. Prerequisite: One year of similar class instruction in the field on the undergraduate level.

**MUPD 587V. Brass Techniques (Irregular). 1-2 Hour.**

A continuation of the undergraduate class brass instrument course. Emphasis is placed on teaching methods, techniques, concepts, and materials. Prerequisite: One year of similar class instruction in the field on the undergraduate level.

**MUPD 599V. Special Workshop in Music (Sp, Su, Fa). 1-6 Hour.**

Presented by visiting master artist-teacher in various fields of music performance, teaching and composition. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

## Music Theory (MUTH) Courses

**MUTH 1003. Basic Musicianship (Su, Fa). 3 Hours.**

Introductory-level studies in music theory and aural perception for students not prepared for MUTH 1603 or MUTH 1621. Meets 4 days per week.

**MUTH 1603. Music Theory I (Sp). 3 Hours.**

A study of diatonic harmonic practice. Includes part-writing and analysis. Prerequisite: MUTH 1003 or permission of instructor.

**MUTH 1621. Aural Perception I (Sp). 1 Hour.**

Development of aural perception through ear training, sight singing, and keyboard harmony. Meets 2 hours per week.

**MUTH 1631. Aural Perception II (Fa). 1 Hour.**

Continued development of aural perception through ear training, sight singing, and keyboard harmony. Meets 2 hours per week. Prerequisite: MUTH 1621.

**MUTH 164V. Composition I (Sp, Fa). 1-4 Hour.**

Private lessons of one-half hour, and one hour of composition laboratory session each week. Development of skills in creative musical expression. Specifically for composition-theory majors. Others admitted by consent. Prerequisite: Music theory or composition major. May be repeated for up to 8 hours of degree credit.

**MUTH 2603. Music Theory II (Fa). 3 Hours.**

A continuation of MUTH 1603. Also includes chromatic harmony. Prerequisite: MUTH 1603.

**MUTH 2621. Aural Perception III (Sp). 1 Hour.**

A continuation of MUTH 1631. Two hours per week, one hour credit. Prerequisite: MUTH 1631.

**MUTH 2631. Aural Perception IV (Fa). 1 Hour.**

A continuation of MUTH 2621. Two hours per week, one hour credit. Prerequisite: MUTH 2621.

**MUTH 264V. Composition II (Sp, Fa). 1-4 Hour.**

Continuation of Composition I. Private lessons of one-half hour, and one hour of composition laboratory session per credit hour each week. Continued development of skills in creative musical expression. Specifically for composition-theory majors. Others admitted by consent. Prerequisite: Two semesters of MUTH 164V with grades of "B" and recommendation of instructor. May be repeated for up to 8 hours of degree credit.

**MUTH 3603. 18th Century Counterpoint (Sp). 3 Hours.**

A study of 18th century counterpoint. Writing and analysis of inventions, canons, fugues, etc. Three hours per week. Prerequisite: MUTH 2603.

**MUTH 3613. Form and 20th Century Techniques (Fa). 3 Hours.**

A study of the harmonic and melodic trends of the 20th century. Three hours per week. Prerequisite: MUTH 2603.

**MUTH 3623. Music Perception (Even years, Sp). 3 Hours.**

A study of the perception and cognition of music. Prerequisite: MUTH 2603.

**MUTH 364V. Composition III (Sp, Fa). 1-4 Hour.**

Continuation of Composition II. Private lessons of one-half hour, and one hour of composition laboratory session per credit hour each week. Continued development of advanced skills in creative musical expression. Specifically for composition-theory majors. Others admitted by consent. Prerequisite: Two semesters of MUTH 264V with grades of B and recommendation of instructor. May be repeated for up to 8 hours of degree credit.

**MUTH 364VH. Honors Composition III (Sp, Fa). 1-4 Hour.**

Continuation of Composition II for honors students. Private lessons of one-half hour, and one hour of composition laboratory session per credit hour each week. Continued development of advanced skills in creative musical expression. Specifically for honors composition-theory majors. Prerequisite: Two semesters of MUTH 264V with grades of "B", recommendation of instructor and honors standing. May be repeated for up to 8 hours of degree credit. This course is equivalent to MUTH 364V.

**MUTH 3723. Jazz Analysis (Irregular). 3 Hours.**

This course is an introduction to jazz analysis. Course content will include lead sheet symbols, jazz progressions, lead sheet analysis, improvisation, phrasing and meter, and aural skills. Prerequisite: MUTH 2603.

**MUTH 3923. Music and Mind (Fa). 3 Hours.**

Examines music from the perspective of cognitive science. Readings and discussions investigate the psychological processes that underlie musical behaviors such as listening and performing while also learning how to adopt empirical methods to study music and make sense of empirical data related to music. Prerequisite: Instructor consent.

**MUTH 3923H. Honors Music and Mind (Fa). 3 Hours.**

Examines music from the perspective of cognitive science. Readings and discussions investigate the psychological processes that underlie musical behaviors such as listening and performing while also learning how to adopt empirical methods to study music and make sense of empirical data related to music. This course is equivalent to MUTH 3923.

**MUTH 4322. Score Reading (Fa). 2 Hours.**

A conductor's approach to the technique of score reading and analysis of orchestra, band, and choral scores for the purpose of preparing composition for rehearsal and performance.

**MUTH 4612. Orchestration (Sp). 2 Hours.**

A continuation of study of the capabilities of the various orchestral and band instruments and their use in arrangement for ensembles, band, and orchestra. Scoring for orchestra. Prerequisite: MUTH 3613.

**MUTH 462V. Music Theory Review (Fa). 1-3 Hour.**

A continuation and intensification of undergraduate music theory. (May not count for credit toward the Master of Music degree.)

**MUTH 464V. Composition IV (Sp, Fa). 1-4 Hour.**

Continuation of Composition III. Private lessons of one-half hour and one hour of composition laboratory session per credit hour each week. Continued development of advanced skills in creative musical expression. Specifically for composition-theory majors. Others admitted by consent. Prerequisite: Two semesters of MUTH 364V with grades of "B" and recommendation of instructor. May be repeated for up to 8 hours of degree credit.

**MUTH 464VH. Honors Composition IV (Sp, Fa). 1-4 Hour.**

Continuation of Composition III. Private lessons of one-half hour and one hour of composition laboratory session per credit hour each week. Continued development of advanced skills in creative musical expression. Specifically for composition-theory majors. Others admitted by consent. Prerequisite: Two semesters of MUTH 364V with grades of B and recommendation of instructor. May be repeated for up to 8 hours of degree credit.

This course is equivalent to MUTH 464V.

**MUTH 4703. Writing Music Analysis (Sp). 3 Hours.**

Analysis of music with an emphasis on analytical writing skills and the use of library source materials. Prerequisite: MUTH 3603.

**MUTH 477V. Special Topics in Music Theory (Irregular). 1-4 Hour.**

Subject matter not covered in other courses. Prerequisite: Instructor consent. May be repeated for up to 4 hours of degree credit.

**MUTH 477VH. Honors Special Topics in Music Theory (Irregular). 1-4 Hour.**

Subject matter not covered in other courses. May be repeated for up to 4 hours of degree credit. This course is equivalent to MUTH 477V.

**MUTH 4923H. Honors Colloquium in Music Theory (Irregular). 3 Hours.**

Covers a special topic or issue, offered as part of the honors program.

**MUTH 498V. Senior Thesis (Sp, Su, Fa). 1-18 Hour.****MUTH 5343. Analytical Techniques (Irregular). 3 Hours.**

An intensive study of selected works from music literature. Schenkerian analysis, rhythmic analysis, and set theory analytical techniques will be studied and employed in addition to traditional harmonic and formal analysis. Prerequisite: MUTH 3613 or equivalent and graduate standing.

**MUTH 5623. Pedagogy of Theory (Irregular). 3 Hours.**

Detailed study of methods of teaching undergraduates courses in music theory and aural perception. Prerequisite: Graduate standing.

**MUTH 5631. Music Theory Teaching Practicum (Irregular). 1 Hour.**

Supervised teaching of an undergraduate course in music theory or aural perception, including lesson plan and examination preparation and in-class observation.

**MUTH 5643. Analysis of 20th Century Music (Irregular). 3 Hours.**

Study of 20th century music and analytic techniques including pitch class set theory and serial techniques. Prerequisite: Graduate standing.

**MUTH 5662. Instrumental Arranging (Irregular). 2 Hours.**

A practical course in arranging for the various small ensembles including keyboard. Review of instrumental ranges and capabilities. Study of current trends in instrumental ranges and arranging.

**MUTH 5672. Advanced Orchestration (Irregular). 2 Hours.**

A study of advanced principles of orchestral writing through individual projects in scoring and analysis. Prerequisite: MUTH 4612 or equivalent.

**MUTH 568V. Composition (Sp, Fa). 1-4 Hour.**

Private lessons of one-half hour, and one hour of composition laboratory session each week. Development of skills in creative musical expression specifically for composition-theory majors - others admitted by consent. Prerequisite: Graduate standing. May be repeated for degree credit.

**MUTH 599V. Independent Study in Music Theory (Irregular). 1-6 Hour.**

Provides students with an opportunity to pursue special study of topics in music theory. May be repeated for up to 12 hours of degree credit.

**MUTH 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Master's Thesis. May be repeated for degree credit.

## Nursing (NURS)

### Courses

**NURS 2012. Nursing Informatics (Sp, Su, Fa). 2 Hours.**

This course focuses on how information technology is used in the health care system. The course describes how nursing informatics is currently being used by healthcare professionals and speculates about future applications. Prerequisite: For pre-nursing and nursing majors only. Must have sophomore standing or above and a GPA of 3.0 or above.

**NURS 2022. Introduction to Professional Nursing Concepts (Sp, Su, Fa). 2 Hours.**

The course presents an overview of theories, principles and concepts essential to professional nursing practice. It includes ethical and legal implications relevant to health care systems. Focus is on the nursing process as the organizing framework for the delivery of care. It also explores the role of the professional nurse. This is a pre-nursing course. Prerequisite: For pre-nursing and nursing majors only. Must have sophomore standing or above and a GPA of 3.0 or above.

**NURS 2032. Therapeutic and Interprofessional Communication (Sp, Su, Fa). 2 Hours.**

Focuses on intrapersonal and interpersonal strategies necessary for effective nurse-client interactions. Introduces a variety of communication techniques skills including group process and dynamics. This is a pre-nursing course. Prerequisite: For pre-nursing and nursing majors only. Must have sophomore standing or above and a GPA of 3.0 and above.

**NURS 217V. Independent Study in Nursing (Sp, Su, Fa). 1-2 Hour.**

A selected learning experience in nursing to enhance knowledge about and/or practice in the profession. Objectives and experiences are designed on an individual basis with a faculty adviser. May be repeated for up to 12 hours of degree credit.

**NURS 217VH. Honors Independent Study in Nursing (Irregular). 1-2 Hour.**

A selected learning experience in nursing to exchange knowledge about and/or practice in the profession. Objectives and experiences are designed on an individual basis with a faculty adviser. Prerequisite: Honors candidacy. This course is equivalent to NURS 217V.

**NURS 3171. Independent Study Nursing (Irregular). 1 Hour.**

A structured learning experience in nursing to improve knowledge of the science in nursing. Objectives and experiences are designed on an individual basis with a faculty advisor. May be taken with any 3500 level nursing course or above. May be repeated for up to 7 hours of degree credit.

**NURS 3313. Pharmacology in Nursing (Sp, Fa). 3 Hours.**

The use of therapeutic drugs in health care is the focus of the course. Nursing assessment, safety measures and client education related to drug therapy are emphasized. This is a Level I course. Prerequisite: Admission into the BSN professional program.

**NURS 3314. Pathophysiology (Sp, Fa). 4 Hours.**

The course focuses on underlying concepts common to pathophysiologic processes across the life span. Factors that contribute to altered physiological functioning and the body's adaptive and compensatory mechanisms are studied. Emphasizes concepts essential for understanding the rationale for preventive and therapeutic nursing interventions in health and illness. This is a Level I course. Prerequisite: Admission into BSN professional program.

**NURS 3314H. Honors Pathophysiology (Sp, Fa). 4 Hours.**

The course focuses on underlying concepts common to pathophysiologic processes across the life span. Factors that contribute to altered physiological functioning and the body's adaptive and compensatory mechanisms are studied. Emphasizes understanding the rationale for preventive and therapeutic nursing interventions in health and illness. This is a Level I course. Prerequisite: Admission into BSN professional program.

This course is equivalent to NURS 3314.

**NURS 3321L. Health Assessment (Sp, Fa). 1 Hour.**

The course focuses on assessment of client's health status, environment, nursing care needs, and referral needs. The course presents concepts and skills necessary to perform a holistic health assessment of the adult client. This is a Level I course. Prerequisite: Admission to the BSN professional program.

**NURS 3402. Nursing Concepts: Older Adult (Sp, Fa). 2 Hours.**

This course focuses on gerontologic theories, concepts, and principles as they relate to nursing care of older adults. Students explore socio-cultural context of gerontologic nursing, professional standards of practice, common health concerns, and future considerations. This is a Level I course. Prerequisite: Admission into the BSN Professional Program of Studies.

**NURS 3422. Nursing Concepts: Foundations of Professional Practice (Sp, Fa). 2 Hours.**

Introduction to the nursing process and the scope of basic human needs. The student learns to use nursing diagnoses and care plans in case studies. This is a Level I course. Corequisite: NURS 3424. Prerequisite: Admission to BSN professional program.

**NURS 3424. Professional Role Implementation I: Caregiver (Sp, Fa). 4 Hours.**

Students apply basic nursing concepts and skills in laboratory and clinical settings. Emphasis is on the role of nurse as caregiver and use of the nursing process in the delivery of care. This is a Level I course. Pre- or Corequisite: NURS 3422, NURS 3321L, and NURS 3313. Prerequisite: Admission to the BSN program.

**NURS 3634. Nursing Concepts: Adult Health and Illness I (Sp, Fa). 4 Hours.**

Focuses on the adult population experiencing acute problems in the health-illness continuum. Utilizing the nursing process, nursing, and medical treatments of selected conditions that will be emphasized in the acute care setting. This is a Level I course. Corequisite: NURS 3644. Prerequisite: NURS 3313, NURS 3314, NURS 3321L, NURS 3402, and NURS 3422.

**NURS 3644. Professional Role Implementation II: Caregiver (Sp, Fa). 4 Hours.**

Emphasizes the role of caregiver in acute care settings. Course expands on assessment and includes advanced clinical skills. Emphasizes the use of clinical judgment to promote optimal health for adults experiencing illness and/or undergoing surgery. This is a Level I course. Pre- or Corequisite: NURS 3634. Prerequisite: NURS 3313, NURS 3314, NURS 3321L, NURS 3402, NURS 3422, and NURS 3424.

**NURS 3644H. Honors Professional Role Implementation II: Caregiver (Sp, Fa). 4 Hours.**

Emphasizes the role of caregiver in acute care settings. Course expands on assessment and includes advanced clinical skills. Emphasizes the use of clinical judgment to promote optimal health for adults experiencing illness and/or undergoing surgery. This is a Level I course. Pre- or Corequisite: NURS 3634. Prerequisite: NURS 3313, NURS 3314, NURS 3321L, NURS 3402, NURS 3422, and NURS 3424.

This course is equivalent to NURS 3644.

**NURS 3742. Nursing Concepts: Mental Health and Illness (Sp, Fa). 2 Hours.**

Presents the basic concepts and theories of mental health and illness. Examines various therapeutic modalities in the care of clients experiencing mental health or psychosocial disorders. This is a Level I course. Corequisite: NURS 3752. Prerequisite: NURS 3313, NURS 3314, NURS 3321L, NURS 3402, and NURS 3422.

**NURS 3752. Professional Role Implementation III: Caregiver (Sp, Fa). 2 Hours.**

Students work with clients who have mental health problems, observe group process in therapy sessions, and develop interpersonal communication skills. Students apply research-based knowledge in assisting assigned clients to meet mental and other health care needs. The caregiver role is emphasized. This is a Level I course. Pre- or Corequisite: NURS 3742. Prerequisite: NURS 3313, NURS 3314, NURS 3321L, NURS 3402, NURS 3422, and NURS 3424.

**NURS 3842. Research in Nursing (Sp, Fa). 2 Hours.**

Introduction to the research process through a comparative analysis of selected studies exemplifying various theoretical, methodological and analytical approaches. Students acquire the basic competencies to critically read, evaluate and interpret nursing research studies for use in professional nursing practice. This is a Level I course.

**NURS 3901H. Honors Nursing Thesis Tutorial (Sp, Su, Fa). 1 Hour.**

Designed to provide the foundation for the Honors Thesis/Project. Students and faculty tutors work "one-on-one" exploring a specific topic which has been agreed upon by the student and the professor. Prerequisite: Honors candidacy.

**NURS 4003. Transition to Professional Nursing Practice (Sp, Fa). 3 Hours.**

The course introduces the RN student to the standards and concepts of professional nursing based on the Essentials of Baccalaureate for Professions Nursing Education. Prerequisite: RNBN program.

**NURS 4013. Informatics for the Professional Nurse (Sp, Fa). 3 Hours.**

This course focuses on how information technology is used in the health care system. The course describes how nursing informatics is currently being used by healthcare professionals, and speculates about future applications. Prerequisite: RNBN program admission.

**NURS 4112. Nursing Concepts: Teaching and Health Promotion (Sp, Su, Fa). 2 Hours.**

The course focuses on teaching/learning and the professional nurse's role in health promotion and disease prevention. A variety of health education and health promotion strategies are presented and evaluated. This is a Level II course. The online version of this course is limited to RN-BSN students only. Prerequisite: Admission to the nursing program, and completion of Level I courses or RNBN concentration.

**NURS 4154. Nursing Concepts: Children and Family (Sp, Fa). 4 Hours.**

This course provides theory and research-based knowledge regarding holistic nursing care of children and families. Principles of health promotion and health education for expanding families are integral to this course. This is a Level II course. Corequisite: NURS 4164. Pre- or Corequisite: NURS 4112.

**NURS 4164. Professional Role Implementation IV: Teacher (Sp, Fa). 4 Hours.**

Clinical and laboratory experience for application of research-based knowledge and skills in the nursing care of children and families. Emphasis is on teaching role of the nurse. This is a Level II course. Pre- or Corequisite: NURS 4154. Prerequisite: Completion of Level I courses.

**NURS 4203. Leadership in Nursing (Sp, Su, Fa). 3 Hours.**

This course introduces theories and principles of management and leadership and the professional nurse's role within the health care system. Social issues, economic policy, and regulatory requirements are used to explore healthcare delivery systems and access, quality improvement, and patient safety. This course includes strategies for monitoring delivery of care, outcomes, and evaluating program effectiveness. Prerequisite: Admission into the RN-BSN program.

**NURS 4242. Leadership in Nursing (Sp, Fa). 2 Hours.**

Introduces principles of leadership and the professional nurse's roles in the health care system. Considers the perspectives of management, organization, and change theory. Includes strategies for monitoring delivery of care, outcomes and evaluating program effectiveness. This is a Level II course.

**NURS 4252. Professional Role Implementation V: Manager (Sp, Fa). 2 Hours.**

Students will apply the theoretical principles learned in NURS 4242 and NURS 4262 to the delivery of care to adults with chronic conditions across transitions of care settings. The manager will be emphasized. This is a Level II course. Prerequisite: Completion of Level I courses. Pre- or Corequisite: NURS 4242 and NURS 4262.

**NURS 4252H. Honors Professional Role Implementation V: Manager (Sp, Fa). 2 Hours.**

Students will apply the theoretical principles learned in NURS 4242 and NURS 4262 to the delivery of care to adults with chronic conditions across transitions of care settings. The manager will be emphasized. This is a Level II course. Prerequisite: Completion of Level I courses. Pre- or Corequisite: NURS 4242 and NURS 4262. This course is equivalent to NURS 4252.

**NURS 4262. Nursing Concepts: Adult Health and Illness II (Sp, Fa). 2 Hours.**

Focuses on the adult population experiencing chronic problems in the health-illness continuum. Utilizing the nursing process, nursing and medical treatment of selected conditions will be emphasized across transitional care settings. This is a Level II course. Prerequisite: Level I courses.

**NURS 4313. Pathophysiology in Nursing (Sp, Su). 3 Hours.**

The course focuses on the study of the underlying concepts of physiological functioning and the body's adaptive and compensatory mechanisms within a systems framework. Learners examine aspects of disease processes including etiology, pathogenesis, and clinical manifestations, as it applies to current nursing practice with diverse clients across the lifespan. Pre- or Corequisite: Admission to the RN to BSN online program or instructor or department consent.

**NURS 4323. Health Assessment and Clinical Reasoning for Professional Nurses (Sp). 3 Hours.**

This 3-credit theory course builds on the Registered Nurse's clinical experience and knowledge of health assessment. Emphasis is placed on expanding physical assessment skills, interpreting abnormal findings, and applying the principles of evidence-based practice to the health assessment process. The role of documentation of health assessment in third party reimbursement is also explored. Prerequisite: Admission to the RN-BSN program.

**NURS 4442. Nursing Concepts: Critical Care (Sp, Fa). 2 Hours.**

Focuses on the adult population experiencing multiple or critical illnesses or conditions necessitating admission to a critical care unit. The course emphasizes both nursing and medical treatment of selected conditions. This is a Level II course. Corequisite: NURS 4452. Prerequisite: Completion of Level I courses and NURS 4112, NURS 4154, NURS 4164, NURS 4242, NURS 4252, and NURS 4262.

**NURS 4452. Professional Role Implementation VI: Role Synthesis (Sp, Fa). 2 Hours.**

Clinical learning is focused on further developing and refining the knowledge, skills, and attitudes necessary to manage the care of an acutely ill or complex patient and/or family within the context of an inter-professional team. This is a Level II course. Prerequisite or Corequisite: NURS 4442. Prerequisite: Completion of Level I and NURS 4112, NURS 4154, NURS 4164, NURS 4242, NURS 4252, and NURS 4262.

**NURS 4503. Introduction to Health Care Policy (Su). 3 Hours.**

This course provides an overview of health care policy orienting students to the political and social processes impacting the current health care environment. The course provides a basic framework for understanding the role of nursing in advocacy, leadership, economics and ethics associated with influencing health care policy. Recognizing the financing of health care and the impact on quality through policy changes will be discussed.

**NURS 4603. Nursing Concepts: Community (Sp, Su, Fa). 3 Hours.**

The course focuses on theories and concepts in community health nursing. Health resources are explored in a variety of settings. This is a Level II course. The online version of this course is limited to RN-BSN students only. The online RN-BSN student is exempt from the corequisite requirement. Corequisite: NURS 4613 or RNBN concentration. Prerequisite: Completion of Level I courses and NURS 4112, NURS 4154, NURS 4164, NURS 4242, NURS 4252, and NURS 4262 or RNBN concentration.

**NURS 4613. Professional Role Implementation VII: Role Synthesis (Sp, Fa). 3 Hours.**

Application of community health concepts and the nursing process to promote community health and to restore health in a variety of settings. This is a Level II course. Pre- or Corequisite: NURS 4603. Prerequisite: Completion of Level I courses and NURS 4112, NURS 4154, NURS 4164, NURS 4242, NURS 4252, NURS 4262.

**NURS 4613H. Honors Professional Role Implementation VII: Role Synthesis (Sp, Fa). 3 Hours.**

Application of community health concepts and the nursing process to promote community health and to restore health in a variety of settings. This is a Level II course. Pre- or Corequisite: NURS 4603. Prerequisite: Completion of Level I courses and NURS 4112, NURS 4154, NURS 4164, NURS 4242, NURS 4252, NURS 4262. This course is equivalent to NURS 4613.

**NURS 4701. Professional Nursing Synthesis (Sp, Su, Fa). 1 Hour.**

The course emphasizes reflection, integration, and synthesis of concepts from previous courses. Course enrollment occurs in the last semester of the program. Prerequisite: Admission into the RN-BSN program.

**NURS 4712. Seminar in Nursing (Sp, Fa). 2 Hours.**

Focuses on integrating the nursing caregiver, teacher and manager roles. Prepares students to analyze practice issues, trends and future demands. Explores the roles of baccalaureate prepared professional nurses and facilitates students to incorporate those roles as they enter professional practice. Must be taken in the final semester of the Professional Program of Study. This is a Level II course. Corequisite: NURS 4722. Prerequisite: Completion of Level I courses and NURS 4112, NURS 4154, NURS 4164, NURS 4242, NURS 4252, and NURS 4262.

**NURS 4722. Professional Role Implementation VIII: Role Synthesis (Sp, Fa). 2 Hours.**

Clinical immersion experience that approximates the role of a beginning BSN nurse generalist. The online version of this course is limited to RN-BSN students only. The online RN-BSN student is exempt from the corequisite requirement. Corequisite: NURS 4712 or RNBN concentration. Prerequisite: Completion of Level I courses and NURS 4112, NURS 4154, NURS 4164, NURS 4242, NURS 4252, NURS 4262 or RNBN concentration. To be taken in final semester of the RN-BSN program of study.

**NURS 481V. Special Topics in Nursing (Irregular). 1-6 Hour.**

This course is the study of a special topic(s) in nursing. Content varies. May be repeated for up to 6 hours of degree credit.

**NURS 481VH. Honors Special Topics in Nursing (Irregular). 1-6 Hour.**

This course is the study of a special topic(s) in nursing. Content varies. May be repeated for up to 6 hours of degree credit. This course is equivalent to NURS 481V.

**NURS 4843. Research in Nursing (Sp, Fa). 3 Hours.**

This course introduces the research process through a comparative analysis of selected studies exemplifying various theoretical, methodological, and analytical approaches. Students acquire the basic competencies to critically read, evaluate and interpret nursing research studies for use in professional nursing practice. Pre- or Corequisite: Admission to the RN to BSN online program or instructor or department consent.

**NURS 491V. Independent Study in Nursing (Sp, Su, Fa). 1-6 Hour.**

A selected learning experience in nursing to enhance knowledge and/or practice of the profession. Objectives and experiences are designed on an individual basis with a faculty adviser. May be taken with any 3500-level nursing course or above.

**NURS 491VH. Honors Independent Study in Nursing (Irregular). 1-6 Hour.**

A selected learning experience in nursing to enhance knowledge and/or practice of the profession. Objectives and experiences are designed on an individual basis with a faculty adviser. May be taken with any 3500-level nursing course or above. This course is equivalent to NURS 491V.

**NURS 498VH. Nursing Honors Thesis/Project (Sp, Su, Fa). 1-3 Hour.**

Designed to provide facilitation of the Honors Thesis/Project. Students and faculty work "one-on-one" to complete the honors thesis/project. Prerequisite: Honors candidacy and NURS 3901H. May be repeated for up to 3 hours of degree credit.

**NURS 5003. Theoretical and Scientific Foundations for Nursing Practice (Fa). 3 Hours.**

The course utilizes the critical reasoning process to examine the element of nursing knowledge. Emphasis is placed on concept analysis and the evaluation of nursing theories. Identification of the links between theory and empirical indicators is examined. The clinical relevance of mid-range and practice theories is explored. Prerequisite: Admission to the graduate program or by permission of the instructor.

**NURS 5033. Role Development (Fa). 3 Hours.**

Examines the role development of advanced practices in nursing and the evolution of the Doctorate of Nursing Practice. Concepts include role development, interdisciplinary communication and collaborative strategies, patient advocacy and serving as change agent for role implementation. Pre- or Corequisite: NURS 5003. Prerequisite: Admission to the graduate program or by permission of the instructor.

**NURS 5043. Concepts of Health Promotion Within Diverse Populations (Fa). 3 Hours.**

Provides a theoretical base for health promotion, risk reduction and disease prevention at the individual, family and community levels. A cross-disciplinary approach to achieve or preserve health is identified. Focuses on holistic plans and interventions that address the behavioral and social factors that contribute to morbidity and mortality in diverse populations. Provides opportunity to develop, implement, and evaluate health promotion interventions for selected clients. Prerequisite: Admission to the graduate program or by permission of the instructor.

**NURS 5053. Evidence-Based Practice and Innovation in Nursing (Sp). 3 Hours.**

Examines models and strategies for leadership in evidence-based practice and innovation, outcomes management, and translational scholarship. The emphasis of this course is on problem identification, information retrieval, critical appraisal, and synthesis of a body of evidence. It provides the student with the foundation for the DNP evidence-based practice project. Prerequisite: Admission to the graduate program or by permission of the instructor.

**NURS 5063. Health Care Policy (Su). 3 Hours.**

Provides knowledge and understanding needed to participate in policy development analysis and implementation. Provides an overview of the political process, health care policy, advocacy, leadership roles, legislative and regulatory issues, health care financing, and evaluating outcomes. Access, cost, and quality of health care are major foci in this course. Prerequisite: Admission to the graduate program or by permission of the instructor.

**NURS 5073. Curriculum Design and Development in Nursing Education (Sp, Fa). 3 Hours.**

This course provides the essential elements that define and operationalize the process of curriculum design and development. Students will examine curriculum theories, models, and concepts from the perspective of nursing education. They will analyze factors that influence program and curriculum development. Historical and philosophical foundations of nursing practice and educational principles are examined. The application and synthesis of curriculum theory and their application to nursing is emphasized. The role of the educator in the dynamic relationship between the practice setting, research, and curriculum is examined. Students will participate in the design of curriculum which reflects professional nursing practice, standards, theory, and research. Prerequisite: Admission to the Graduate Program or departmental consent. Completion of all general and research core classes or approval of the MSN Education Program Coordinator.

**NURS 5083. Methods of Assessment and Evaluation in Nursing Education (Sp, Fa). 3 Hours.**

Topics include theories, models, and concepts of learner, course, and program assessment and evaluation; formative and summative strategies for assessing, testing and evaluating learning to support professional clinical formation. Learning principles, qualities of effective measurement instruments, construction and use of teacher-made tests, use of nationally-normed tests, test interpretation, and assessment of higher-level cognitive skills and learning are examined. Students attain the knowledge and skills to lead innovation in nursing education to prepare future nurses to advance the profession of nursing. Prerequisite: Admission to the Graduate Program or departmental consent. Completion of all general and research core classes or approval of the MSN Education Program Coordinator.

**NURS 5093. Instructional Design and Delivery in Nursing Education (Sp, Fa). 3 Hours.**

This course addresses the use of instruction system design models to develop pedagogically-sound instruction for effective and efficient delivery of nursing education. Students acquire the knowledge, skills, and abilities to provide leadership in the design, development, and implementation of instructional materials for face-to-face, e-learning, simulation, print-based materials, multimedia, and individualized/supplemental instructional mediums. Application of teaching/learning theories, models, and concepts to the development of courses are emphasized. Focus areas include instructional strategies, media selection techniques, and formative evaluation strategies for designing instruction in a high-tech environment. Students use both formative and summative evaluation methods to make evidence-based decisions regarding course materials and various forms of technological media. Prerequisite: Admission to the Graduate Program or departmental consent. Completion of all general and research core classes or approval of the MSN Education Program Coordinator.

**NURS 5102. Advanced Health Assessment, Physical Examination and Diagnostic Reasoning (Sp). 2 Hours.**

Applies health assessment, physical examination techniques, clinical decision making, and diagnostic reasoning to formulate a culturally-sensitive, individualized plan of care, which includes health promotion and disease prevention. Corequisite: NURS 5111.

**NURS 5111. Clinical Practicum: Advanced Health Assessment, Physical Examination, and Diagnostic Reasoning (Sp). 1 Hour.**

Focus is on the application of skilled critical thinking, clinical decision making, diagnostic reasoning, and advanced physical examination techniques to develop differential diagnoses, problem list, and a plan of care for individual clients. Corequisite: NURS 5102.

**NURS 5123. Pharmacotherapeutics (Su). 3 Hours.**

Provides advanced concepts and application of pharmacology for broad categories of agents used in disease management. Establishes the relationship between pharmacologic agents and physiologic/pathologic responses. It assists students with the development of knowledge and skills to prescribe and manage a client's health in a safe, high quality, and cost-effective manner. Prerequisite: Admission to the graduate program or by permission of the instructor.

**NURS 5143. Advanced Pathophysiology (Sp). 3 Hours.**

Provides a comprehensive understanding of normal physiologic and pathologic mechanisms of disease that serves as a foundation for clinical assessment, decision making, and management of individuals. Includes mechanisms of disease, genetic susceptibility, and immune responses in selected disorders. This course includes concepts of pathophysiology across the lifespan. Prerequisite: Admission to the graduate program or by permission of the instructor.

**NURS 5212. Acute and Critical Illness in Adult and Geriatric Populations (Fa). 2 Hours.**

Focuses on utilization of advanced theories, concepts, knowledge and skill in the care of diverse adult and geriatric populations with complex acute health problems. Corequisite: NURS 5225. Prerequisite: All core courses.

**NURS 5225. Clinical Practicum: Acute and Critical Illness in Adults and Geriatric Populations (Fa). 5 Hours.**

Clinical practicum for NURS 5212. Application of advanced theories, concepts, knowledge and skill in the care of diverse adult and geriatric populations with complex acute health problems. Corequisite: NURS 5212. Prerequisite: All core courses.

**NURS 5232. Chronic Illness in Adult and Geriatric Populations (Sp). 2 Hours.**

Focuses on utilization of advanced theories, concepts, knowledge and skill in the care of diverse adult and geriatric populations with complex chronic health problems. Corequisite: NURS 5245. Prerequisite: All core courses.

**NURS 5245. Clinical Practicum: Chronic Illness in Adult and Geriatric Populations (Sp). 5 Hours.**

Clinical practicum for NURS 5232. Application of advanced theories, concepts, knowledge and skill in the care of adults and geriatric populations experiencing chronic health problems. Corequisite: NURS 5232. Prerequisite: All core courses.

**NURS 5272. Clinical Practicum: Interpretive Diagnostic Reasoning (Su). 2 Hours.**

Application of principles of pathologic mechanisms of disease, pharmacotherapeutics, and pharmacokinetics to refine and synthesize skills for history taking, physical examination, clinical assessment, diagnostic reasoning, and decision making for adult and geriatric individuals. Pre- or Corequisite: NURS 5102, NURS 5111, NURS 5143 and NURS 5123.

**NURS 5303. Foundations of Nursing Education (Fa). 3 Hours.**

Considers the principles, philosophies, theories, and strategies of teaching, learning, and evaluation needed in nursing education.



**NURS 5313. Curriculum and Evaluation in Nursing Education (Su). 3 Hours.**

Considers knowledge and skills needed for curriculum and program development and evaluation for a variety of nursing education settings.

**NURS 5323. Teaching in Nursing Practicum (Fa). 3 Hours.**

Supervised experience in the nurse educator role in both classroom and clinical settings.

**NURS 5343. Specialty Development I (Sp). 3 Hours.**

This course will include two foci. There will be readings focused on current topics in a specialty area. A focused field experience will allow student to integrate knowledge and skills in a specialty area of nursing in preparation for the nurse educator role.

**NURS 5353. Specialty Development II (Fa). 3 Hours.**

Building on the Independent Study: Specialty Development I, this course will include two foci. There will be readings focused on current topics in a specialty area. A focused field experience will allow student to integrate knowledge and skills in a specialty area of nursing in preparation for the nurse educator role. Prerequisite: NURS 5343.

**NURS 5403. Scholarly Writing (Su, Fa). 3 Hours.**

This course will focus on the fundamentals of academic writing at the graduate level with the goal of honing students' critical reading and writing skills. Attention will be given to mechanics, usage, and style, as well as to handling and citing sources. The emphasis throughout is on creative thinking and precise, scholarly writing. Prerequisite: Completion of a baccalaureate degree and acceptance into the graduate program.

**NURS 5413. Executive Leadership in Nursing (Sp). 3 Hours.**

This course focuses on the health care structures and processes, human capital management, health and public policy, communication principles and styles, negotiations, leadership effectiveness, strategic visioning, ethics and advocacy, and innovation. Learning will enable the professional nurse executive to lead complex health care environments applying an advanced skill set in each of the focus areas. Prerequisite: NURS 5401, NURS 5523, NURS 5043, NURS 5053, NURS 5063, MBAD 5241, HRWD 5233, NURS 6233, ESRM 6403.

**NURS 5423. Health Systems Operations (Fa). 3 Hours.**

This course focuses on the complex practice environment. Enables the professional nurse leader to demonstrate knowledge of care management and delivery, professional practice environment and models, and quality monitoring and improvement. Professional practice and health care delivery models and settings, role delineation, laws and regulations, accreditation, and professional practice standards will be emphasized. Prerequisite: NURS 5401, NURS 5523, NURS 5043, NURS 5053, NURS 5063, MBAD 5241, HRWD 5233, NURS 6233, ESRM 6403.

**NURS 5443. Chronic Health Problems in Adult and Geriatric Populations (Fa). 3 Hours.**

Explores evidence-based models for the management of selected chronic conditions, focusing on the holistic assessment and treatment of individuals and families. Utilizes advanced theories, concepts, knowledge, and skill in the care of diverse adult and geriatric populations with complex chronic health problems. Prerequisite or Corequisite: NURS 6123. Corequisite: NURS 5454. Prerequisite: Completion of core courses.

**NURS 5454. Adult-Geriatric (Chronic) Clinical I (Fa). 4 Hours.**

Focuses on the management of individuals with complex, chronic health problems. Emphasis is on the application of theoretical concepts, assessment skills, critical thinking, and evidence-based standards to formulate differential diagnoses, clinical impressions, treatment, and evaluation plans in the acute or outpatient setting. Pre- or Corequisite: NURS 6123. Corequisite: NURS 5443. Prerequisite: Completion of core courses.

**NURS 5463. Acute and Critical Illness in Adult and Geriatric Populations (Sp). 3 Hours.**

Provides an in-depth knowledge of management of acutely and critically ill adults. Emphasis is on the use of evidence-based knowledge to formulate differential diagnoses, diagnoses, treatment and evaluation plans, and outcome parameters for adults who have complex acute or critical health problems, or are at high risk for developing complications. Corequisite: NURS 5475. Prerequisite: NURS 5443 and NURS 5454.

**NURS 5475. Adult-Geriatric (Acute/Critical) Clinical II (Sp). 5 Hours.**

Experiences allow the student to apply safe, scientifically sound, cost effective, legal and ethical management strategies to the care of adults with complex acute and critical illness. Emphasis is on the development of advanced clinical skills in acute and critical care settings. Corequisite: NURS 5463. Prerequisite: NURS 5443 and NURS 5454.

**NURS 5483. Primary Care of Emerging Issues (Fa). 3 Hours.**

Focuses on evidence-based models for the management of common health conditions in family practice, focusing on the holistic assessment and treatment of adults across the lifespan and their families. Emphasis on assessment, diagnosis and treatment of emerging conditions common to primary practice and walk-in clinics, and includes health promotion. Utilizes advanced theories, concepts, knowledge, and skill in the care of diverse family populations with emerging conditions. Corequisite: NURS 5495. Prerequisite: NURS 5102, NURS 5111 and NURS 5272.

**NURS 5495. Primary Care of Emerging Issues (Sp). 5 Hours.**

Clinical component to 5483. Focuses on the management of individuals with acute and complex health conditions in the adult population. Emphasis on application of theoretical concepts, assessment skills, critical thinking, and evidence-based standards to formulate differential diagnoses, clinical impressions, treatment, and evaluation plans in family practice. Pre- or Corequisite: NURS 5483. Prerequisite: NURS 5454.

**NURS 5523. Healthcare Informatics (Fa). 3 Hours.**

Explores standards and principles for selecting, using, and evaluating information systems. Discusses the application of computer programs relevant to nursing administration, education, research, and practice. Assists the student in managing individual and aggregate information, and assessing the efficacy of patient care technology appropriate to a specialized area of nursing practice. Prerequisite: Admission to the graduate program or by permission of the instructor.

**NURS 5543. Primary Care of Women and Children (Su). 3 Hours.**

Focuses on evidence-based models for the management of women and children, focusing on the holistic assessment and treatment of these populations, as well as their families. Emphasis on assessment, diagnosis and treatment of conditions common to primary practice, women's health and pediatric clinics, and including health promotion. Utilizes advanced theories, concepts, knowledge, and skill in the care of diverse populations with common conditions. Corequisite: NURS 5683. Prerequisite: NURS 5102, NURS 5111, NURS 5143, and NURS 5123.

**NURS 5553. Specialty Development I: Nurse Executive Leader (Fa). 3 Hours.**

This course will focus on microsystem level operations within the healthcare environment and issues faced by nurse administrators. Learning will enable the professional nurse to participate in operations surrounding the delivery of care in various health care organizations. This course will facilitate the application of learned theories and organizational principles. Prerequisite: NURS 5401, NURS 5523, NURS 5043, NURS 5053, NURS 5063, MBAD 5241, HRWD 5233, NURS 6233, ESRM 6403.

**NURS 5563. Specialty Development II: Nurse Executive Leader (Sp). 3 Hours.**

Students will complete a scholarly project or thesis synthesizing knowledge and skills from previous courses in program of study. Applied learning will focus on the development of a systems approach to nurse executive leadership and inquiry. Focus is on public and private health care delivery systems, alliances with internal and external environments, and strategic decision making and implementation in the rapidly evolving global arena of nursing leadership and practice. This course prepares professional nurses to apply leadership and evidence-based practice principles in the evaluation of quality processes encountered across health care industries. 135 contact hours. Corequisite: NURS 579V and NURS 600V. Prerequisite: NURS 5401, NURS 5523, NURS 5043, NURS 5053, NURS 5063, MBAD 5241, HRWD 5233, NURS 6233, ESRM 6403, NURS 5343, NURS 5553, and NURS 5423.

**NURS 5683. Primary Care of Women and Children Clinical Practicum (Su). 3 Hours.**

NURS 5683 is the clinical component to NURS 5543 and focuses on the management of women and children in the clinical setting with emphasis on holistic assessment and treatment of these populations and their families. Students will engage in the assessment, diagnosis and treatment of conditions common to primary practice in women's health and pediatric clinics. This course will consist of 135 contact hours, 80 in the pediatric setting and 55 in the women's health setting. Corequisite: NURS 5543. Prerequisite: NURS 5102, NURS 5111, NURS 5123, and NURS 5143.

**NURS 579V. Independent Study (Sp, Su, Fa). 1-3 Hour.**

Independent study designed by student with faculty advisor. May be completed as alternative to thesis.

**NURS 598V. Nursing Special Topics (Irregular). 1-6 Hour.**

Special Topics course to fulfill national accrediting body for Family Nurse Practitioner. Prerequisite: NURSDP major. May be repeated for up to 6 hours of degree credit.

**NURS 599V. Seminar (Irregular). 1-3 Hour.**

Selected topics in nursing explored in discussion format.

**NURS 600V. Master's Thesis (Sp, Su, Fa). 1-3 Hour.**

Student research to fulfill degree requirement for the MSN. Prerequisite: NURS 5053. May be repeated for degree credit.

**NURS 6123. Evaluation Methods and Translational Research for Evidence-based Practice (Fa). 3 Hours.**

The translation of evidence into practice, including theoretical and practical challenges, is analyzed through the use of case studies and proposals. Uses methods of inquiry for systematic appraisal of nursing practice or healthcare programs to identify practice outcomes and create an environment to support and sustain changes. Pre- or Corequisite: ESRM 6403. Prerequisite: NURS 5053.

**NURS 6224. Specialty Practice Clinical III (Su). 4 Hours.**

Provides an opportunity to synthesize advanced knowledge and role behaviors within a specialty concentration. Designed to apply nursing theory, translational research, epidemiologic principles, ethical/legal principles, outcome evaluations, healthcare systems thinking, and economics into a specialized clinical practice role and setting. Depending upon specialty and experience, may require travel to campus. Prerequisite: Completion of NURS 5443, NURS 5454, NURS 5463, and NURS 5475; or by permission of the instructor.

**NURS 6233. Healthcare Economics and Finance (Sp). 3 Hours.**

Provides economic, financial, and business knowledge and skills required for a leadership role in financial planning and decision making within healthcare delivery systems. Prerequisite: Admission to the graduate program or by permission of the instructor.

**NURS 6244. Specialty Practice Clinical IV (Sp, Fa). 4 Hours.**

Allows for the continuation of specialty role development and a more refined and advanced approach to care delivery, systems thinking, and leadership. Allows for the total number of practice hours required for certification and/or degree. Prerequisite: NURS 6224.

**NURS 6263. Organization Management and Systems Leadership (Su). 3 Hours.**

Facilitates understanding of how to lead, advocate, and manage innovative responses to organizational needs and challenges. Emphasizes development and evaluation of care delivery models that meet the needs of targeted patient populations by enhancing accountability for effective and efficient healthcare, quality improvement, and patient safety. Prerequisite: Admission to the graduate program or by permission of the instructor.

**NURS 628V. Specialty Practice Clinical V (Sp, Su, Fa). 1-4 Hour.**

Allows for the continuation of specialty role development and a more refined and advanced approach to care delivery, systems thinking, and leadership. Allows for the total number of practice hours required for certification and/or degree. Pre- or Corequisite: NURS 6244.

**NURS 7113. Capstone Seminar I (Fa). 3 Hours.**

Designed to unify and organize the student's field of inquiry for the final Capstone Project. Emphasis is on the application of an evidence-based intervention suitable to their area of focus that involves appropriate methodology and application with the goal for change in practice or outcome analysis. Prerequisite: Completion of NURS 6224 and/or permission of the instructor.

**NURS 7122. Capstone Implementation in Practice Setting I (Fa). 2 Hours.**

Provides necessary support and elements for students to begin execution of the Capstone Project in collaboration with the sponsoring site. Corequisite: NURS 7113.

**NURS 7132. Capstone Seminar II (Sp). 2 Hours.**

Focuses on data exploration and analysis for the organization and refinement of all aspects of Capstone Project, emphasizing implementation and evaluation of the evidence-based intervention. Allows student to finalize the scholarly written and oral report for dissemination of results. Corequisite: NURS 7142. Prerequisite: NURS 7113 and NURS 7122.

**NURS 7142. Capstone Implementation in Practice Setting II (Sp). 2 Hours.**

Provides an avenue for students to showcase the Final Capstone Project. Allows students the opportunity to synthesize and demonstrate the ability to employ effective communication and collaboration skills, leadership roles, influence healthcare quality and safety, evaluate practice, and successfully negotiate change in healthcare delivery for individuals, families, populations, or systems. Corequisite: NURS 7132. Prerequisite: NURS 7113 and NURS 7122.

## Nutrition (NUTR)

### Courses

**NUTR 1201. Introduction to the Dietetic Profession (Sp, Fa). 1 Hour.**

Introduction to profession of dietetics and nutrition including history, scope and future of professionals with emphasis on academic preparation, internships, acquisition of professional credentials, career laddering and career opportunities. Guest speakers will supplement lectures and assignments. Prerequisite: HESCBS or HNHIBS majors only or by department consent.

**NUTR 1213. Fundamentals of Nutrition (Sp, Fa). 3 Hours.**

The functions of food, body processes, optimum diets in relation to health and physical fitness.

**NUTR 1213H. Honors Fundamentals of Nutrition (Sp, Fa). 3 Hours.**

The functions of food, body processes, optimum diets in relation to health and physical fitness.

This course is equivalent to NUTR 1213.

**NUTR 2111L. Principles of Foods Laboratory (Sp, Fa). 1 Hour.**

Laboratory exercises and practice applicable of Principles of Foods. Lab 3 hours. Corequisite: NUTR 2112.

**NUTR 2112. Principles of Foods (Sp, Fa). 2 Hours.**

Physical and chemical characteristics of foods and factors that affect these characteristics during storage and preparation. Lecture 2 hours. Corequisite: NUTR 2111L. Prerequisite: NUTR 1213 and CHEM 1073 (or CHEM 1103 or CHEM 1213). FHNH or HNHI majors or minors or GHES or FCSE majors only.

**NUTR 2203. Sports Nutrition (Sp, Fa). 3 Hours.**

The integration of concepts from nutrition and exercise physiology into an applied multidisciplinary study of how food, beverages and dietary supplements influence physical performance. Prerequisite: NUTR 1213.

**NUTR 3203. Human Nutrition (Sp). 3 Hours.**

Fundamental human nutrition; nutritive value of foods and general functions of nutrients based on concepts derived from inorganic and organic chemistry. Examples relating nutrition to disease used as illustrations to deepen understanding of normal nutrition. Lecture 3 hours per week. Corequisite: CHEM 2613 and CHEM 2611L or CHEM 3603 and CHEM 3601L. Prerequisite: NUTR 1213.

**NUTR 3213. Communication in Nutrition and Dietetics (Fa). 3 Hours.**

A study of communication, nutrition education, health behavior theories, counseling and interviewing techniques, the Academy of Nutrition and Dietetics Code of Ethics, outcomes research, reimbursement and marketing yourself. Prerequisite: NUTR 1213 and FHNH or HNHI majors only.

**NUTR 4103. Experimental Foods (Sp). 3 Hours.**

Application of experimental methods for investigations in cookery. Group and individual problems. Lecture 2 hours, laboratory 3 hours per week. Pre- or Corequisite: AGST 4023 or STAT 2303 or EDFD 2403 or PSYC 2013 and FHNH or HNHI majors with senior standing only. Corequisite: Lab component. Prerequisite: NUTR 2112 and NUTR 2111L and (CHEM 1123 and CHEM 1121L or CHEM 1073 and CHEM 1071L).

**NUTR 4213. Advanced Nutrition (Fa). 3 Hours.**

Normal nutrition with emphasis on utilization of nutrients. Lecture and reports on current literature 3 hours per week. Prerequisite: CHEM 3813 and NUTR 3203.

**NUTR 4223. Life Cycle Nutrition (Fa). 3 Hours.**

Study of normal nutrition emphasizing quantitative needs for nutrients as functions of biologic processes that vary during stages of the life cycle. Attention is given to preconception, pregnancy, childhood and older adults. Prerequisite: NUTR 1213 and either (BIOL 2213 and BIOL 2211L or ANSC 3032 and ANSC 3042) or (CHEM 1073 and CHEM 1071L or CHEM 1103 and BIOL 1543 and BIOL 1541L).

**NUTR 4243. Community Nutrition (Sp). 3 Hours.**

Identifying, assessing, and developing solutions for nutritional problems encountered at the local, state, federal, and international levels. Lecture 3 hours per week. Prerequisite: NUTR 1213.

**NUTR 4263. Medical Nutrition Therapy I (Fa). 3 Hours.**

Principles of medical nutrition therapy with emphasis on the Nutrition Care Process, and the pathophysiology and current standards of practice for diseases and disorders. Pre- or corequisite: NUTR 4213 and NUTR 3213. Prerequisite: BIOL 2213 and BIOL 2211L (or ANSC 3042) and CHEM 3813.

**NUTR 4273. Medical Nutrition Therapy II (Sp). 3 Hours.**

Principles of medical nutrition therapy with emphasis on the Nutrition Care Process, and the pathophysiology and current standards of practice for diseases and disorders. Lecture 3 hours per week. Prerequisite: NUTR 4263.

**NUTR 521V. Readings in Nutrition (Irregular). 1-6 Hour.**

Seminar and individual study. Prerequisite: Instructor consent.

**NUTR 5223. Nutrition During the Life Cycle (Fa). 3 Hours.**

Study of normal nutrition emphasizing quantitative needs for nutrients as functions of biologic processes that vary during stages of the life cycle. Nutritive needs during pregnancy and childhood are emphasized with some attention to nourishing aging and elderly adults. Factors that affect food choices and eating behavior are also considered. Lecture 3 hours per week. On campus and web-based delivery is offered. Prerequisite: Graduate standing and consent of instructor.

**NUTR 5263. Medical Nutrition Therapy I (Fa). 3 Hours.**

Principles of medical nutrition therapy with emphasis on Nutrition Care Process, and the pathophysiology and current standards of practice for diseases and disorders. Lecture 3 hours per week. Prerequisite: Graduate standing and consent of instructor.

**NUTR 5273. Medical Nutrition Therapy II (Sp). 3 Hours.**

Principles of medical nutrition therapy with emphasis on the Nutrition Care Process, and the pathophysiology and current standards of practice for diseases and disorders. Lecture 3 hours per week. Prerequisite: NUTR 5263.

## Operations Management (OMGT) Courses

**OMGT 4313. Law and Ethics (Sp, Su, Fa). 3 Hours.**

Analysis of the fundamental legal principles applicable in protecting the rights and interests of individuals and organizations; court systems and litigation processes; constitutional law and legislation, formation and discharge of contracts; agency relationships; torts; labor laws; patents; trademarks; copyrights; unfair competition; ethics; professional relations. Not for graduate credit.

**OMGT 4323. Industrial Cost Analysis (Sp, Su, Fa). 3 Hours.**

Use of accounting information for planning and control from a management viewpoint; principles of cost accounting and other aspects of production costs; budgeting, depreciation, taxes, distribution of profits, securities, sources of corporate capital, and interpretation of financial statements. Not for graduate credit.

**OMGT 4333. Applied Statistics (Sp, Su, Fa). 3 Hours.**

Fundamentals of probability and distribution theory with applications in managerial decision making. Descriptive methods, probability distributions, sampling distributions and hypothesis testing are included. Not for graduate credit.

**OMGT 4853. Introduction to Decision Support Tools in Operations Management (Irregular). 3 Hours.**

Basic topics include implementations of formulas and functions to conduct breakeven analysis, numerical forecasting, inventory and quality control calculations. Advanced topics include linear programming, optimization, Monte Carlo simulation, time value of money and analysis of variance (ANOVA). Introduction to functions necessary to import and analyze data to support Operations Management decisions. Pre- or Corequisite: OMGT 4333 or equivalent or departmental consent.

**OMGT 5003. Introduction to Operations Management (Sp, Su, Fa). 3 Hours.**

Provides an overview of the functional activities necessary for the creation/delivery of goods and services. Topics covered include: productivity; strategy in a global business environment; project management; quality management; location and layout strategies; human resources management; supply chain and inventory management; material requirements planning; JIT; maintenance and reliability; and other subjects relevant to the field. Required course. Pre- or Corequisite: OMGT 4853. Prerequisite: OMGT 4333.

**OMGT 5013. Supply Chain Management for Operations Managers (Irregular). 3 Hours.**

Focuses on the development and application of decision models in supply chains with emphasis on supply chain performance, cost, and metrics; demand forecasting; aggregate planning; inventory management; supply chain design and distribution; transportation modeling and analysis; supply chain coordination; the role of information technology; and sourcing decisions. Spreadsheet tools and techniques will be used to analyze supply chain performance. Prerequisite: OMGT 4333, OMGT 4853 and OMGT 5003.

**OMGT 5113. Human Resource Management (Irregular). 3 Hours.**

A review of Human Resources Management functions as they apply in today's business setting with specific emphasis on regulatory compliance, total rewards systems, recruitment, training, and employment practices. The course is designed both for HRM professionals and for line managers/professionals who need to understand the roles and responsibilities of HR as a business partner. Prerequisite: OMGT 4313 and OMGT 5003.

**OMGT 5123. Finance for Operations Managers (Irregular). 3 Hours.**

Examines the scope and environment of finance for operations managers. Topics include financial markets, interest rates, financial statements, cash flows, and performance evaluation. Valuation of financial assets, using time value of money; the meaning and measurement of risk/return; capital-budgeting, cost of capital, capital structure, dividend policy, and working capital management are also covered. Required course (may substitute OMGT 5463). Pre- or Corequisite: OMGT 5003. Prerequisite: OMGT 4323 and OMGT 4853.

**OMGT 5133. Operations Management in the Service Sector (Irregular). 3 Hours.**

Review of the role of the operations management in the service sector, e.g., health care systems, banking, municipal services, utilities, and postal service and others. Emphasizes the principles and methodologies applicable to the solution of problems within the service industries. Pre- or Corequisite: OMGT 5003. Prerequisite: Graduate standing.

**OMGT 5143. Strategic Issues in Human Resource Management (Irregular). 3 Hours.**

Explores the concept of Strategic Human Resource Management with emphasis on effective partnering by various HR functions with all levels of management to support the large-scale, long-range goals of achieving success in the organization's chosen markets. Internal and external impacts on and of HR in all areas will be examined. Students will analyze case studies to build on basic concepts acquired in OMGT 5113. Prerequisite: OMGT 5003, OMGT 4313, OMGT 5113 or departmental consent.

**OMGT 5223. Safety and Health Standards Research (Irregular). 3 Hours.**

For graduate students who seek Certified Professional or Certified Industrial Hygienist status, or both. Includes review and development of computer databases for standards, interpretations, court decisions, and field memoranda. Test equipment and procedures for determining indoor industrial air containment PEL concentrations and industrial environment noise levels are examined. Pre- or Corequisite: OMGT 5003. Prerequisite: INEG 4223 or OMGT 5403.

**OMGT 5253. Leadership Principles and Practices (Sp, Su, Fa). 3 Hours.**

The course is designed to expose students to multiple approaches to leadership in a wide variety of settings. Leadership styles, the knowledge areas and competencies expected of today's leaders, the challenges leaders face, the historical and philosophical foundations of leadership, the relationships among leadership theory, leadership practice, and the moral-ethical aspects of leadership are among the topics covered in the course. A number of respected regional, national, and international leaders share "lessons learned" in their leadership journeys. Plus, a number of highly regarded leadership books and case studies on leadership are read and discussed. Students may not receive credit for INEG 4253 and INEG 5253/OMGT 5253. Pre- or Corequisite: OMGT 4313 or departmental consent. This course is cross-listed with INEG 5253.

**OMGT 5303. Health Care Policies and Issues (Irregular). 3 Hours.**

Explores health care management strategies and policy development with emphasis on health insurance, Medicare, Medicaid and managed care, as well as employee health benefits. The roles of government and business in policy formulation are addressed, as are the problems of financing health care, legal and ethical considerations, current healthcare issues, and quality measures.

**OMGT 5373. Quality Management (Irregular). 3 Hours.**

Introduces students to quality management concepts and their use in enhancing organizational performance and profitability. History of the quality movement, its broad application in key economic sectors, and philosophical perspectives of major quality leaders will be discussed. Focus is on continuous process improvement, using data and information to guide organizational decision-making. The Six Sigma approach and associated statistical tools, supporting process improvement, are also covered. Pre- or Corequisite: OMGT 5003. Prerequisite: OMGT 4333 and OMGT 4853.

**OMGT 5403. Industrial Safety and Health Administration (Irregular). 3 Hours.**

Based on Federal Regulations for Occupational Safety and Health, the course examines current regulations, as well as their commonsense application. Covers various standards, such as those for material handling, personal protective equipment, toxic substances, and machine guarding. Uses case studies and real world scenarios to present topics and demonstrate their application.

**OMGT 5423. Operations Management & Global Competition (Sp). 3 Hours.**

Studies of principles and cases in business/industrial administration in global competition. Survey of markets, technologies, multi-national corporations, cultures, and customs. Discussion of ethics, professionalism, difference valuing, human relations skills, and other topics relevant to global practice. Pre-or Corequisite: OMGT 5003.

**OMGT 5433. Cost Estimation Models (Irregular). 3 Hours.**

An examination of the methodologies for estimating and forecasting manufacturing costs. Types of cost recovery systems, work progress functions, product improvement curves, determination of hourly rates, parametric estimating systems, and the development of software for computer-assisted estimating systems. Pre- or Corequisite: OMGT 5003. Prerequisite: INEG 2513 or OMGT 4853, OMGT 4323 and OMGT 4333.

This course is cross-listed with INEG 5433.

**OMGT 5443. Decision Models (Irregular). 3 Hours.**

Focus on quantitative decision models for technical and managerial problems for private and public organizations. Topics include shareholder value, stakeholder value, Value-Focused Thinking, axioms of decision analysis, decision making challenges, decision traps, cognitive biases, decision processes, decision framing, influence diagrams, value hierarchy structuring, designing creative alternatives, single objective models, multiobjective additive value model, swing weights, sensitivity analysis, portfolio decision models with binary linear programming, probability elicitation, Bayes Theorem, decision trees, Monte Carlo simulation, expected value, dominance (deterministic and stochastic), tornado diagrams, value of information, risk preference, utility models, expected utility, and communicating analysis insights. Prerequisite: OMGT 5003, OMGT 4333, INEG 2313 or OMGT 4853.

This course is cross-listed with INEG 5443.

**OMGT 5463. Economic Decision Making (Irregular). 3 Hours.**

Principles of economic analysis with emphasis upon discounted cash flow criteria for decision-making. Comparison of criteria such as rate of return, annual cost, and present worth for the evaluation of investment alternatives. Required course (may be substituted by OMGT 5123). Prerequisite: OMGT 5003, OMGT 4323 and OMGT 4853.

**OMGT 5503. Maintenance Management (Irregular). 3 Hours.**

Principles and practices of maintenance department organization, prevention procedures, and typical equipment problems. Includes related topics such as plant protection, preventative and plant maintenance. Pre- or Corequisite: OMGT 5003 or departmental consent. Prerequisite: OMGT 4333.

**OMGT 5613. Lean Production and Inventory Control (Irregular). 3 Hours.**

Defines analytical methods used to support inventory replenishment for the production of goods and services. Operational problems of production systems are examined, including objective/subjective forecasting methods, aggregate planning of work force and production under seasonal demand; and inventory models of EOQ for known and unknown demand. Supply chain management and lean manufacturing concepts are also discussed. Prerequisite: OMGT 4333 and OMGT 5003.

**OMGT 5623. Strategic Management (Irregular). 3 Hours.**

Examines strategic management, which is defined as the art and science of formulating, implementing, and evaluating cross-functional decisions that enable an organization to achieve its long-term objectives. Principles of strategic management will be covered in conjunction with case studies to provide opportunity for analysis and experience in applying these principles in an operations management environment. Required course. Prerequisite: OMGT 5003 and OMGT 4313.

**OMGT 5633. Linkages among Technology, Economics and Societal Values (Irregular). 3 Hours.**

Addresses how macro-level change is influenced by the linkages among technology, economics and societal values. Three major course initiatives: 1) Developing a conceptual model for understanding how macro-level change has occurred over history; 2) Examining recorded history in order to develop a contextual appreciation for Society's current situation; and 3) Using statistical data to identify six overriding world trends that are likely to greatly impact society's goal of achieving sustainable prosperity and well being in the foreseeable future. Prerequisite: Graduate standing or instructor permission.

This course is cross-listed with BENG 5633.

**OMGT 5653. Introduction to Data Analytics for Operations Managers (Irregular). 3 Hours.**

Introduces data science and data analytics. Provides basic skill instruction in the statistical data analysis programming language R. Provides experience building and interpreting descriptive and predictive data analytics models. Provides operations managers with the skill and tools to use and understand advanced data analytics methods. Provides practice communicating those results to senior stakeholders and decision makers. Prerequisite: OMGT 5003 or departmental consent.

**OMGT 5673. Principles of Operations Research (Irregular). 3 Hours.**

Surveys the mathematical models used to design and analyze operational systems. Includes linear programming models, waiting line models, computer simulation models, and management science. Students will be introduced to applications of operations research and solution methods, using spreadsheet software. Pre- or Corequisite: OMGT 5003 and OMGT 4853. Prerequisite: OMGT 4333.

**OMGT 5733. Human Behavior Analysis (Irregular). 3 Hours.**

Examination of the principal drivers of individual and group behavior in organizations with coverage of practical applications of concepts in organizational behavior for operations managers. In addition to group behavior and organizational processes, the course explores people management challenges that result from external pressures on stakeholders (e.g. competitive, economic, social, political, and regulatory impacts). Pre- or Corequisite: OMGT 5003 or departmental consent. Prerequisite: OMGT 4313.

**OMGT 577V. Special Problems (Irregular). 1-3 Hour.**

Application of previous course work knowledge to problems encountered in military base and civilian operations. Problems are proposed by students according to individual interests and needs. Used for courses in specific concentration, certificate or focus areas with parenthetical titles. Maybe used for courses in development. Prerequisite: Departmental consent. May be repeated for up to 3 hours of degree credit.

**OMGT 5783. Project Management for Operations Managers (Irregular). 3 Hours.**

An introduction to the Critical Path Method and Program Evaluation and Review Technique. Covers project planning and control methods; activity sequencing; time-cost trade-offs; allocation of manpower and equipment resources; scheduling activities and computer systems for PERT/CPM with emphasis on MS project. Case studies include topical issues combining methodologies and project management soft skills, such as conflict management, negotiation, presentations to stakeholders, and team building. Required course.

**OMGT 5793. Risk Management (Irregular). 3 Hours.**

Students will learn to apply tools to identify, assess, communicate and manage risk. Course work includes methods to identify risks, develop risk models, assess risk, and evaluate risk management options. Case studies are used to understand risk management challenges in systems development in complex organizations. Prerequisite: OMGT 5003 or EMGT 5033 or departmental consent.

**OMGT 5823. Information Technology for Operations Managers (Irregular). 3 Hours.**

Information Technology for the management and control of information systems and processes used in operations management. Topics covered include e-Business and e-Commerce Systems, Management Information Systems (MIS), Data Resource Management, Networking, Decision Support, Information Security, Enterprise and Global IT, and IT Strategies and Solutions for Operations Managers. Pre- or Corequisite: OMGT 5003 or departmental consent. Prerequisite: OMGT 4853.

**OMGT 5833. Decision Support Application Development for Operations Management (Irregular). 3 Hours.**

Students will utilize Microsoft Excel and will write programming code in Visual Basic for Applications to develop custom solutions to challenging operations management problems. Emphasis will be placed on computing productivity in a spreadsheet-based setting to develop practical, useful decision support applications and computer programs to support operations management. Assumes basic knowledge of programming. Pre- or Corequisite: OMGT 5003 or departmental consent. Prerequisite: OMGT 4853.

**OMGT 5873. Organizing for Change (Irregular). 3 Hours.**

Provides an overview of fundamental management functions, organizational decision-making authority, structures and controls to support managing change. Topics include leadership, strategy and ethical perspectives on change management. Pre- or Corequisite: OMGT 5003 or departmental consent.

**OMGT 5903. Operations Management of Unmanned Aircraft Systems (Irregular). 3 Hours.**

Course focuses on the fundamentals of UAS operations and the applications of UAS systems in research, government and business applications. Modules covers government compliance, licensing/certification requirements, University Policy and current events in the UAS field. Prepares students to participate in research or UAS operational roles. Discusses policy and process issues in society and considerations for ethical UAS use.

**OMGT 5983. Advanced Project Management (Irregular). 3 Hours.**

This course builds upon the project management for operations managers' course and offers students an opportunity to apply advanced project management tools to manage troubled projects. Topics include determining the project status using the schedule baseline, cost estimations, and earned value management techniques. Students will learn how to perform a project assessment/audit and will create a troubled project recovery plan. The course includes presentations of case study assignments to gain experience in communicating the status and recovery of failed and troubled projects. Prerequisite: OMGT 5783.

**OMGT 5993. Homeland Security for Operations Managers (Irregular). 3 Hours.**

Introduces concepts of Homeland Security in industry and government settings. Covers basic legal and compliance programs and risk management processes. Explains the continuity between critical infrastructure, government and private sector roles. Focuses on system design and understanding of the National Incident Management System protecting the homeland. Introduces cybersecurity and intelligence analysis concepts.

## Philosophy (PHIL)

### Courses

**PHIL 1003. Critical Reasoning: Discovery, Deduction, and Intellectual Self-Defense (Irregular). 3 Hours.**

This is a practical, "hands-on" course in sound reasoning, critical thinking, and the careful evaluation of evidence and argument. The course will utilize a range of real-world sources (television, Internet, magazines, etc.) and will be informed in content and method by the psychology of human judgment.

**PHIL 1503. Special Topics in Philosophy and Culture (Irregular). 3 Hours.**

Exploration of introductory-level special topics of an issue or issues in contemporary culture not otherwise covered in the philosophy curriculum.

**PHIL 2003. Introduction to Philosophy (ACTS Equivalency = PHIL 1103) (Sp, Su, Fa). 3 Hours.**

An examination of such basic philosophical topics as the existence of God, the nature of the human mind, the relationship between appearance and reality, the forms and limits of human knowledge, freedom of the will, and standards of right and wrong. Includes both historical and contemporary readings.

**PHIL 2003C. Introduction to Philosophy (Sp, Fa). 3 Hours.**

An examination of such basic philosophical topics as the existence of God, the nature of the human mind, the relationship between appearance and reality, the forms and limits of human knowledge, freedom of the will, and standards of right and wrong. Includes both historical and contemporary readings. Corequisite: Drill component.

This course is equivalent to PHIL 2003.

**PHIL 2003H. Honors Introduction to Philosophy (Sp, Su, Fa). 3 Hours.**

An examination of such basic philosophical topics as the existence of God, the nature of the human mind, the relationship between appearance and reality, the forms and limits of human knowledge, freedom of the will, and standards of right and wrong. Includes both historical and contemporary readings.

This course is equivalent to PHIL 2003.

**PHIL 2103. Introduction to Ethics (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa). 3 Hours.**

Basic concepts of moral philosophy, including historical and contemporary literature concerned with such issues as ethical relativism vs. objectivism, duty, happiness, freedom of the will and responsibility, facts and values, individual liberty and society. Application of theories to substantive questions.

**PHIL 2203. Logic (ACTS Equivalency = PHIL 1003) (Sp, Su, Fa). 3 Hours.**

Traditional and modern methods of deductive and inductive inference. Degree credit may not be earned for both PHIL1203 and PHIL 2203.

**PHIL 2303. Human Nature and the Meaning of Life (Irregular). 3 Hours.**

Examination of important views on human nature, the meaning of human existence, the value and significance of different human activities and projects, and on what philosophy, religion, art, and literature have to teach us on these topics. Reading may be drawn from a variety of philosophical, literary, and religious writings.

**PHIL 2503. Philosophical Explorations (Irregular). 3 Hours.**

Explores topics in philosophy that are not currently covered in lower-level philosophy courses.

**PHIL 3103. Ethics and the Professions (Sp, Su, Fa). 3 Hours.**

After a survey of the standard theories of moral obligation, justice, and rights, the course focuses on specific moral problems that arise within engineering, business, and the professions.

**PHIL 3113. Environmental Ethics (Irregular). 3 Hours.**

The course addresses ethical questions about nature and the natural environment. Topics of discussion include anthropocentric and biocentric ethics, population control, obligations to future generations, animal rights, moral considerability, Leopold's land ethic, deep ecology, and ecofeminism. This course is cross-listed with ENSC 3933.

**PHIL 3123. Bioethics (Irregular). 3 Hours.**

This course examines ethical dilemmas that arise in biological research, medical research, medical practice, and healthcare policy. Topics may include such things as abortion, assisted reproduction, cloning & genetic engineering, assisted suicide & voluntary euthanasia, organ donation, research ethics, patient autonomy, and healthcare policy.

**PHIL 3203. Philosophy and the Christian Faith (Irregular). 3 Hours.**

This course will deal with philosophical issues that arise in Christian theology. Topics to be discussed may include the doctrines of the Incarnation, the Trinity, Atonement, and Hell, as well as the nature of God and the relationship between faith and reason.

**PHIL 3443. Animal Minds (Irregular). 3 Hours.**

This course explores questions about thinking, consciousness, emotion, and communication in non-human animals; about the differences between human and non-human animals; and about implications for our treatment of animals.

**PHIL 390V. Readings (Sp, Su, Fa). 1-6 Hour.****PHIL 3923H. Honors Colloquium (Irregular). 3 Hours.**

Treats a special topic of issue offered as part of the honors program. Prerequisite: honors candidacy (not restricted to candidacy in philosophy). May be repeated for degree credit.

This course is cross-listed with PHIL 3933.

**PHIL 3933. Special Studies (Irregular). 3 Hours.**

A course (not independent study) which covers a topic or a philosopher not usually presented in depth in regular courses. May be repeated for degree credit.

This course is cross-listed with PHIL 3923H.

**PHIL 3943. Philosophy and Physics (Irregular). 3 Hours.**

Examination of the metaphysical and epistemological implications of specific physical theories with an emphasis on twentieth-century physics. Topics covered may include the nature of space and time (particularly as described in relativity theory), the nature of the quantum mechanical world, and the temporal asymmetries found in thermodynamics and other areas of physics.

**PHIL 399VH. Honors Course (Sp, Su, Fa). 1-6 Hour.**

Prerequisite: Junior standing. May be repeated for up to 12 hours of degree credit.

**PHIL 4003. Ancient Greek Philosophy (Fa). 3 Hours.**

Pre-Socratics, Socrates, Plato, and Aristotle. Prerequisite: 3 hours of philosophy.

**PHIL 4013. Platonism and Origin of Christian Theology (Irregular). 3 Hours.**

The study of Plato, Middle Platonism, and Neoplatonism, including Philo, Plotinus, and Proclus, and the influence of Platonism on the Greek church fathers of the 2nd-5th centuries, principally Origen and Gregory of Nyssa and also Pseudo-Dionysius. Prerequisite: 3 hours of philosophy.

**PHIL 4023. Medieval Philosophy (Irregular). 3 Hours.**

Includes Augustine, Bonaventure, Aquinas, Scotus, and Ockham.

**PHIL 4033. Modern Philosophy-17th and 18th Centuries (Sp). 3 Hours.**

British and Continental philosophy, including Bacon, Descartes, Spinoza, Leibniz, Hobbes, Locke, Berkeley, Hume, and Kant.

**PHIL 4043. Nineteenth Century Continental Philosophy (Irregular). 3 Hours.**

Study of major Continental European philosophers of the 19th century including Hegel, Marx, Kierkegaard, Schopenhauer, Nietzsche. Emphasis on the nature of persons, the question of freedom, and the importance of self-expression, as well as views on knowledge, reality, and the nature of philosophy. Prerequisite: 3 hours of Philosophy.

**PHIL 4063. Twentieth Century Continental Philosophy (Irregular). 3 Hours.**

Study of major figures (e.g. Husserl, Heidegger, Sartre, Foucault, Derrida) and trends (phenomenology, existentialism, hermeneutics, critical theory, deconstruction) in 20th century French and German thought. Topics include human beings and their place in the world, the role of history and culture, and the possibility of critical reflection.

**PHIL 4073. History of Analytic Philosophy (Irregular). 3 Hours.**

From Frege to recent figures, including Russell, Moore, Wittgenstein, Schlick, Carnap, Ayer, Ryle, Strawson, Quine, including a representative sample of works on the logical analysis of language, logical positivism, and ordinary language analysis. Prerequisite: 3 hours of philosophy.

**PHIL 4093. Special Topics in Philosophy (Irregular). 3 Hours.**

This course will cover subject matter not covered in regularly offered courses. May be repeated for up to 6 hours of degree credit.

**PHIL 4103. Modern Jewish Thought (Irregular). 3 Hours.**

A survey of the main trends in Jewish thought from the seventeenth through the nineteenth century.

This course is cross-listed with JWST 4003.

**PHIL 4113. Social and Political Philosophy (Irregular). 3 Hours.**

Selected philosophical theories of society, the state, social justice, and their connections with individuals.

**PHIL 4123. Classical Ethical Theory (Irregular). 3 Hours.**

Study of classical texts in the history of philosophical ethics from Plato to Nietzsche. Philosophers covered may include Plato, Aristotle, Butler, Hume, Kant, and Mill. Prerequisite: 3 hours of philosophy.

**PHIL 4133. Contemporary Ethical Theory (Irregular). 3 Hours.**

A study of contemporary texts in philosophical ethics from G.E. Moore to the present. Philosophers covered may include Moore, Stevenson, Hare, Foot, and Rawls. Prerequisite: 3 hours of philosophy.

**PHIL 4143. Philosophy of Law (Irregular). 3 Hours.**

A philosophical consideration of the nature of law, theory of adjudication, concepts of legal responsibility, liberty and the limits of law, and selected moral-legal issues (abortion, affirmative action, punishment, etc.).

**PHIL 4183. Kant's Critique of Pure Reason (Irregular). 3 Hours.**

In his Critique of Pure Reason, one of the most important works in the history of philosophy, Kant describes how the mind works and claims to solve the major problems of metaphysics. The course is aimed at coming to a basic understanding of Kant's thought and at thinking critically about his claims.

**PHIL 4203. Theory of Knowledge (Irregular). 3 Hours.**

An examination of skepticism, the nature and structures of knowledge and epistemic justification, human rationality, and the justification of religious belief. Prerequisite: 3 hours of philosophy.

**PHIL 4213. Philosophy of Science (Irregular). 3 Hours.**

Examination of issues related to scientific explanation, empirical foundations of science, observation and objectivity, nature of laws and theories, realism and instrumentalism, induction and confirmation, models, causation, and simplicity, beginning with historical survey set in the context of the history of science but emphasizing works from the 1930s to the current period, often including issues in recent physics.

**PHIL 4233. Philosophy of Language (Irregular). 3 Hours.**

A survey of mainstream philosophical theories of meaning, reference, truth, and logical form. Attention given to the views of such figures as Frege, Russell, Tarski, Searle, Dummett, and the advocates of possible world's semantics.

**PHIL 4253. Symbolic Logic I (Fa). 3 Hours.**

Rigorous analyses of the concepts of proof, consistency, equivalence, validity, implication, and truth. Full coverage of truth-functional logic and quantification theory (predicate calculus). Discussion of the nature and limits of mechanical procedures (algorithms) for proving theorems in logic and mathematics. Informal accounts of the basic facts about infinite sets. Prerequisite: PHIL 2203 or MATH 2603.

This course is cross-listed with MATH 4253.

**PHIL 4303. Philosophy of Religion (Irregular). 3 Hours.**

Types of religious belief and critical examination of their possible validity, including traditional arguments and contemporary questions of meaning.

**PHIL 4313. Contemporary Jewish Thought (Irregular). 3 Hours.**

A survey of trends in Jewish thought in the twentieth and twenty-first centuries, focusing on the ways in which Jewish thinkers have responded to the events affecting Jews and the conditions of Jewish life from approximately 1900 to the present.

This course is cross-listed with JWST 4013.

**PHIL 4403. Philosophy of Art (Sp). 3 Hours.**

Varieties of truth and value in the arts and aesthetic experience, focusing on the creative process in the art and in other human activities.

**PHIL 4423. Philosophy of Mind (Irregular). 3 Hours.**

An examination of such topics such as the relationship between mind and body, the mentality of machines, knowledge of other minds, the nature of psychological explanation, the relationships between psychology and the other sciences, mental representation, the nature of the self, and free will and determinism.

**PHIL 4603. Metaphysics (Irregular). 3 Hours.**

Theory and critical analysis of such basic metaphysical problems as mind and body, universals and particulars, space and time, determinism and free will, self-identity and individualism, with emphasis on contemporary perspectives. Prerequisite: 3 hours of philosophy.

**PHIL 4983. Capstone Course for Philosophy Majors (Sp). 3 Hours.**

An undergraduate seminar to be taken in the student's final spring semester. The content will vary with the instructor. The objective is for the student to sharpen his or her philosophical skills by, e.g., writing short papers, giving class presentations, and writing a substantial final essay. Prerequisite: 21 hours of philosophy.

**PHIL 5003. Ancient Greek Philosophy (Fa). 3 Hours.**

(Formerly PHIL 4003.) Pre-Socratics, Socrates, Plato, and Aristotle. Graduate degree credit will not be given for both PHIL 4003 and PHIL 5003. Prerequisite: Three hours of philosophy coursework.

**PHIL 5013. Platonism and Origin of Christian Theology (Irregular). 3 Hours.**

(Formerly PHIL 4013.) The study of Plato, Middle Platonism, and Neoplatonism, including Philo, Plotinus, and Proclus, and the influence of Platonism on the Greek church fathers of the 2nd-5th centuries, principally Origen and Gregory of Nyssa and also Pseudo-Dionysius. Graduate degree credit will not be given for both PHIL 4013 and PHIL 5013. Prerequisite: Three hours of philosophy coursework.

**PHIL 5023. Medieval Philosophy (Irregular). 3 Hours.**

(Formerly PHIL 4023.) Includes Augustine, Bonaventure, Aquinas, Scotus, and Ockham. Graduate degree credit will not be given for both PHIL 4023 and PHIL 5023.

**PHIL 5033. Modern Philosophy-17th and 18th Centuries (Sp). 3 Hours.**

(Formerly PHIL 4033.) British and Continental philosophy, including Bacon, Descartes, Spinoza, Leibniz, Hobbes, Locke, Berkeley, Hume, and Kant. Graduate degree credit will not be given for both PHIL 4033 and PHIL 5033.

**PHIL 5043. Nineteenth Century Continental Philosophy (Irregular). 3 Hours.**

(Formerly PHIL 4043.) Study of major Continental European philosophers of the 19th century including Hegel, Marx, Kierkegaard, Schopenhauer, Nietzsche. Emphasis on the nature of persons, the question of freedom, and the importance of self-expression, as well as views on knowledge, reality, and the nature of philosophy. Graduate degree credit will not be given for both PHIL 4043 and PHIL 5043. Prerequisite: 3 hours of Philosophy.

**PHIL 5063. Twentieth Century Continental Philosophy (Irregular). 3 Hours.**

(Formerly PHIL 4063.) Study of major figures (e.g. Husserl, Heidegger, Sartre, Foucault, Derrida) and trends (phenomenology, existentialism, hermeneutics, critical theory, deconstruction) in 20th century French and German thought. Topics include human beings and their place in the world, the role of history and culture, and the possibility of critical reflection. Graduate degree credit will not be given for both PHIL 4063 and PHIL 5063.

**PHIL 5073. History of Analytic Philosophy (Irregular). 3 Hours.**

(Formerly PHIL 4073.) From Frege to recent figures, including Russell, Moore, Wittgenstein, Schlick, Carnap, Ayer, Ryle, Strawson, Quine, including a representative sample of works on the logical analysis of language, logical positivism, and ordinary language analysis. Graduate degree credit will not be given for both PHIL 4073 and PHIL 5073. Prerequisite: 3 hours of philosophy.

**PHIL 5093. Special Topics in Philosophy (Irregular). 3 Hours.**

(Formerly PHIL 4093.) This course will cover subject matter not covered in regularly offered courses. Graduate degree credit will not be given for both PHIL 4093 and PHIL 5093. May be repeated for up to 6 hours of degree credit.

**PHIL 5103. Modern Jewish Thought (Irregular). 3 Hours.**

(Formerly PHIL 4103.) A survey of the main trends in Jewish thought from the seventeenth through the nineteenth century. Graduate degree credit will not be given for both PHIL 4103 and PHIL 5103.

**PHIL 5113. Social and Political Philosophy (Irregular). 3 Hours.**

(Formerly PHIL 4113.) Selected philosophical theories of society, the state, social justice, and their connections with individuals. Graduate degree credit will not be given for both PHIL 4113 and PHIL 5113.

**PHIL 5123. Classical Ethical Theory (Irregular). 3 Hours.**

(Formerly PHIL 4123.) Study of classical texts in the history of philosophical ethics from Plato to Nietzsche. Philosophers covered may include Plato, Aristotle, Butler, Hume, Kant, and Mill. Graduate degree credit will not be given for both PHIL 4123 and PHIL 5123. Prerequisite: 3 hours of philosophy.

**PHIL 5133. Contemporary Ethical Theory (Irregular). 3 Hours.**

(Formerly PHIL 4133.) A study of contemporary texts in philosophical ethics from G.E. Moore to the present. Philosophers covered may include Moore, Stevenson, Hare, Foot, and Rawls. Graduate degree credit will not be given for both PHIL 4133 and PHIL 5133. Prerequisite: 3 hours of philosophy.

**PHIL 5143. Philosophy of Law (Irregular). 3 Hours.**

(Formerly PHIL 4143.) A philosophical consideration of the nature of law, theory of adjudication, concepts of legal responsibility, liberty and the limits of law, and selected moral-legal issues (abortion, affirmative action, punishment, etc.). Graduate degree credit will not be given for both PHIL 4143 and PHIL 5143.

**PHIL 5183. Kant's Critique of Pure Reason (Irregular). 3 Hours.**

(Formerly PHIL 4183.) In his Critique of Pure Reason, one of the most important works in the history of philosophy, Kant describes how the mind works and claims to solve the major problems of metaphysics. The course is aimed at coming to a basic understanding of Kant's thought and at thinking critically about his claims. Graduate degree credit will not be given for both PHIL 4183 and PHIL 5183.

**PHIL 5203. Theory of Knowledge (Irregular). 3 Hours.**

(Formerly PHIL 4203.) An examination of skepticism, the nature and structures of knowledge and epistemic justification, human rationality, and the justification of religious belief. Graduate degree credit will not be given for both PHIL 4203 and PHIL 5203. Prerequisite: 3 hours of philosophy.

**PHIL 5213. Philosophy of Science (Irregular). 3 Hours.**

(Formerly PHIL 4213.) Examination of issues related to scientific explanation, empirical foundations of science, observation and objectivity, nature of laws and theories, realism and instrumentalism, induction and confirmation, models, causation, and simplicity, beginning with historical survey set in the context of the history of science but emphasizing works from the 1930s to the current period, often including issues in recent physics. Graduate degree credit will not be given for both PHIL 4213 and PHIL 5213.

**PHIL 5233. Philosophy of Language (Irregular). 3 Hours.**

(Formerly PHIL 4233.) A survey of mainstream philosophical theories of meaning, reference, truth, and logical form. Attention given to the views of such figures as Frege, Russell, Tarski, Searie, Dumett, and the advocates of possible world's semantics. Graduate degree credit will not be given for both PHIL 4233 and PHIL 5233.

**PHIL 5253. Symbolic Logic I (Fa). 3 Hours.**

(Formerly PHIL 4253.) Rigorous analyses of the concepts of proof, consistency, equivalence, validity, implication, and truth. Full coverage of truth-functional logic and quantification theory (predicate calculus). Discussion of the nature and limits of mechanical procedures (algorithms) for proving theorems in logic and mathematics. Informal accounts of the basic facts about infinite sets. Graduate degree credit will not be given for both PHIL 4253 and PHIL 5253. Prerequisite: PHIL 2203 or MATH 2603.

**PHIL 5303. Philosophy of Religion (Irregular). 3 Hours.**

(Formerly PHIL 4303.) Types of religious belief and critical examination of their possible validity, including traditional arguments and contemporary questions of meaning. Graduate degree credit will not be given for both PHIL 4303 and PHIL 5303.

**PHIL 5313. Contemporary Jewish Thought (Irregular). 3 Hours.**

(Formerly PHIL 4313.) A survey of trends in Jewish thought in the twentieth and twenty-first centuries, focusing on the ways in which Jewish thinkers have responded to the events affecting Jews and the conditions of Jewish life from approximately 1900 to the present. Graduate degree credit will not be given for both PHIL 4313 and PHIL 5313.

**PHIL 5403. Philosophy of Art (Sp). 3 Hours.**

(Formerly PHIL 4403.) Varieties of truth and value in the arts and aesthetic experience, focusing on the creative process in the art and in other human activities. Graduate degree credit will not be given for both PHIL 4403 and PHIL 5403.

**PHIL 5423. Philosophy of Mind (Irregular). 3 Hours.**

(Formerly PHIL 4423.) An examination of such topics such as the relationship between mind and body, the mentality of machines, knowledge of other minds, the nature of psychological explanation, the relationships between psychology and the other sciences, mental representation, the nature of the self, and free will and determinism. Graduate degree credit will not be given for both PHIL 4423 and PHIL 5423.

**PHIL 5603. Metaphysics (Irregular). 3 Hours.**

(Formerly PHIL 4603.) Theory and critical analysis of such basic metaphysical problems as mind and body, universals and particulars, space and time, determinism and free will, self-identity and individualism, with emphasis on contemporary perspectives. Graduate degree credit will not be given for both PHIL 4603 and PHIL 5603. Prerequisite: 3 hours of philosophy.

**PHIL 5823. Seminar: Spinoza (Irregular). 3 Hours.****PHIL 5883. Seminar: Wittgenstein (Irregular). 3 Hours.****PHIL 5933. Seminar: Philosophical Theology (Irregular). 3 Hours.****PHIL 5983. Philosophical Seminar (Sp, Fa). 3 Hours.**

Various topics and issues in historical and contemporary philosophy. May be repeated for up to 3 hours of degree credit.



**PHIL 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Master's Thesis. May be repeated for degree credit.

**PHIL 690V. Graduate Readings (Sp, Su, Fa). 1-6 Hour.**

Supervised individual readings in historical and contemporary philosophy.

**PHIL 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Doctoral Dissertation. Prerequisite: Candidacy. May be repeated for degree credit.

## Physical Education (PHED) Courses

**PHED 1003. The Physical Education Profession: An Overview (Sp, Fa). 3 Hours.**

An introduction to the teaching of physical education. May be repeated for degree credit.

**PHED 2023. Sport Skills (Sp, Fa). 3 Hours.**

This course is designed to prepare the student to teach sport skills, primarily those taught in grades 5-8. Prerequisite: PHED 1003.

**PHED 2373. Elementary Physical Education (Sp, Su, Fa). 3 Hours.**

Program planning and techniques of teaching physical education activities to children; for early childhood, elementary and physical education teachers, supervisors, and principals. Prerequisite: PHED 1003.

**PHED 3003. Outdoor Education (Sp, Fa). 3 Hours.**

This course is designed to provide opportunities for the student to acquire the skills, teaching and leadership techniques associated with outdoor and adventure activities. Pre- or Corequisite: PHED 3033, PHED 3043, PHED 4743, or PHED 4703. Prerequisite: PHED 1003, junior standing, a cumulative grade point average of 2.5, and pass all three parts of the Praxis Core test.

**PHED 3033. Educational Rhythms and Gymnastics (Sp, Fa). 3 Hours.**

This course is designed to provide opportunities for the student to perform and teach a variety of rhythmical and gymnastic activities. Pre- or Corequisite: PHED 3003, PHED 3043, PHED 4743, or PHED 4703. Prerequisite: PHED 1003, junior standing, a cumulative grade point average of 2.5, and passed all three parts of Praxis Core exam.

**PHED 3043. Teaching Fitness (Sp, Fa). 3 Hours.**

Instructional strategies for teaching public school students about fitness concepts. Pre- or Corequisite: PHED 3003, PHED 3033, PHED 4743, or PHED 4703. Prerequisite: PHED 1003, junior standing, a cumulative GPA of 2.5, and passed all three parts of Praxis Core.

**PHED 3203. Principles and Problems of Coaching (Su, Fa). 3 Hours.**

A focus on the various aspects of coaching the athletes in contemporary society through an examination of research findings related to factors affecting performance. Attention to be given to principles, problems and understanding essential to the management of athletic contests. Prerequisite: Junior standing.

**PHED 3413. Administration in Physical Education (Sp, Fa). 3 Hours.**

An examination of the administrative duties of the physical education teacher. This course is equivalent to KINS 3413.

**PHED 3573. The School Health Program (Sp, Fa). 3 Hours.**

Studies school health services, the health environment, and health education, as well as the teacher's potential role in each. Prerequisite: CHLP 1103.

**PHED 3623. Sport Sociology (Sp, Su, Fa). 3 Hours.**

An investigation of the impact of physical education and sport on society.

**PHED 3903. Physical Education for Special Populations (Sp, Fa). 3 Hours.**

Provides fundamental concepts and skills essential to physical education programming for students with disabilities. Deals with definitions, disabling conditions, developmental and remedial activities, games, and sports. Prerequisite: Junior standing.

**PHED 3903H. Honors Physical Education for Special Populations (Sp, Fa). 3 Hours.**

Provides fundamental concepts and skills essential to physical education programming for students with disabilities. Deals with definitions, disabling conditions, developmental and remedial activities, games, and sports. Prerequisite: Junior standing.

**PHED 4001. Coaching Practicum (Sp, Fa). 1 Hour.**

Designed for students who want to add the Coaching Endorsement to the state teaching license. Student serves as a coaching assistant with a local school, University or recreational sports team. Students who serves as a coaching assistant with a local school must successfully complete a criminal background check prior to beginning coaching practicum. Prerequisite: PHED 3203 and proof of current First Aid/CPR/AED certification submitted to instructor of record.

**PHED 4023. Class Management (Sp, Fa). 3 Hours.**

This course is designed to provide opportunities for the student to acquire an understanding that emphasizes class management; and includes professional ethics, and school policies related to students, faculty, and programs. Corequisite: PHED 407V, PHED 4733. Prerequisite: (1)Senior status in KINSBS P-12, (2)have a grade of "C" or better in all KINS/PHED Teacher Education classes: PHED 1003, PHED 2023, PHED 3033, PHED 3043, PHED 3203, PHED 3373, PHED 3703, PHED 3743, PHED 3903, PHED 4321, KINS 3003, KINS 3373 and KINS 3413 (3) must have a cumulative grade point average of 2.7; Praxis Core (all parts) passed; completed or registered for Praxis II content knowledge for Health and Physical Education exam and scores presented to the university internship supervisor. May be repeated for degree credit.

**PHED 407V. Physical Education Teaching Internship (Sp, Fa). 1-9 Hour.**

This internship involves supervised teaching experience in a P-12 setting. Students will be placed under the guidance of a mentor teacher at specific school sites within NW Arkansas. Internship will be done at both the elementary and secondary levels. Successful completion of a criminal background check is required before beginning internship. Corequisite: PHED 4023, PHED 4733. Prerequisite: Senior status in KINSBS P-12, a grade of "C" or better in all KINS/PHED Teacher Education classes; PHED 1003, PHED 2023, PHED 3033, PHED 3043, PHED 3203, PHED 3373, PHED 3703, PHED 3743, PHED 3903, PHED 4321, KINS 3003, KINS 3373 and KINS 3413; a cumulative grade point average of 2.7 or greater; Praxis Core (all parts) passed; completed or registered for Praxis II content knowledge for Health and Physical Education exam and scores presented to the university internship supervisor. In addition, current Certification in CPR/AED/First Aid should be provided to internship instructor of record.

**PHED 432V. Teaching Practicum (Sp, Fa). 1-2 Hour.**

K-12 Kinesiology majors serve as a teaching assistant with a local school physical education teacher. This course should be taken the semester before PHED 407V Internship. Prerequisite: KINS P-12 or K-12 majors, 2.7 cumulative GPA and passing scores on all three parts of Praxis Core submitted to instructor of record.

**PHED 4703. Assessment in Physical Education (Sp, Fa). 3 Hours.**

An examination of the assessment duties required of a physical education teacher. The use of authentic assessment and various grading strategies will be investigated. Pre- or Corequisite: PHED 3003, PHED 3033, PHED 3043, or PHED 4743. Prerequisite: PHED 1003, a cumulative grade point average of 2.7 or higher, and pass all three parts of Praxis Core test.

**PHED 4733. Senior Seminar (Sp, Fa). 3 Hours.**

This capstone class will cover special topics for the Kinesiology P-12 students in preparation for entry into the profession. Resumes, cover letters, teaching philosophy, references, and interview preparation will be included. Students will also review contemporary issues relevant to the physical education teacher. Corequisite: PHED 4023, PHED 4733. Prerequisite: Senior status in KINSBS P-12, a grade of "C" or better in all KINS/PHED Teacher Education classes: PHED 1003, PHED 2023, PHED 3033, PHED 3043, PHED 3203, PHED 3373, PHED 3703, PHED 3743, PHED 3903, PHED 4321, KINS 3003, KINS 3373 and KINS 3413; a cumulative grade point average of 2.7 or greater; Praxis Core (all parts) passed; completed or registered for Praxis II content knowledge for Health and Physical Education exam and scores presented to the university internship supervisor.

**PHED 4743. Secondary Physical Education (Sp, Fa). 3 Hours.**

Strategies and curriculum for physical education, grades 7-12. Pre- or Corequisite: PHED 3003, PHED 3033, PHED 3043, or PHED 4703. Prerequisite: PHED 1003, a cumulative grade point average of 2.7 and pass all three parts of Praxis Core test.

**PHED 480V. Workshop (Su). 3-6 Hour.**

Physical education workshop. Prerequisite: Instructor consent.

**PHED 5233. Research on Teaching in Physical Education (Odd years, Fa). 3 Hours.**

A review of contemporary research literature informing effective teaching practices in physical education settings. Students gain experience in critically reviewing literature in physical education as well as related behavioral science, education, and humanities disciplines; emphasis is placed in incorporating research finding into personal teaching strategies.

**PHED 5243. Sport Skill Assessment and Instructional Strategies (Odd years, Su). 3 Hours.**

The focus of this course is practical assessment techniques and instructional strategies in the area of sport and physical education activities.

**PHED 5253. The Physical Education Curriculum (Even years, Fa). 3 Hours.**

Principles, problems, procedures, and the influence of educational philosophy on programs in physical education and their application in the construction of a course of study for a specific situation.

**PHED 5273. Professional Issues in Physical Education and Sport (Even years, Fa). 3 Hours.**

A review of contemporary research literature informing effective teaching practices in physical education settings. Students gain experience in critically reviewing literature and discussing current issues.

**PHED 5313. Risk Management in Physical Education & Athletics (Even years, Su). 3 Hours.**

This course is designed to provide opportunities for the student to acquire an understanding of how to reduce the risk of injuries and eliminate hazards that may contribute to injuries associated with physical education and athletics.

**PHED 5413. Adapted Movement Science (Even years, Fa). 3 Hours.**

Methods and techniques for working with individuals with disabilities in an adapted movement science.

**PHED 5553. Scientific Principles of Movement and Performance (Odd years, Su). 3 Hours.**

This course focuses on theoretical information about sport biomechanics and movement principles, with practical applications to the physical education of coaching profession.

**PHED 5803. Measurement Concepts for K-12 Physical Education Teachers (Su). 3 Hours.**

This course focuses on techniques that physical education teachers can use to monitor student progress in a K-12 environment.

**PHED 6363. Supervision in Physical Education (Odd years, Fa). 3 Hours.**

The focus of this course is instructional supervision as a set of complex processes in which the supervisor works within accepted guidelines and functions to effectively supervise a teacher's pedagogical development. The Physical Education Instructional Supervision (PEIS) Model will be used to help facilitate this process.

## Physical Education Activity (PEAC) Courses

**PEAC 1131. Beginning Swimming (Irregular). 1 Hour.**

Includes: essentials of water safety; basic strokes and techniques of swimming; and beginning diving.

**PEAC 1221. Beginning Jogging (Irregular). 1 Hour.**

Instruction and participation in jogging.

**PEAC 1231. Beginning Bowling (Irregular). 1 Hour.**

Instruction and participation in bowling.

**PEAC 1241. Beginning Volleyball (Irregular). 1 Hour.**

Instruction and participation in volleyball.

**PEAC 1251. Beginning Racquetball (Irregular). 1 Hour.**

Instruction and participation in racquetball.

**PEAC 1351. Beginning Golf (Irregular). 1 Hour.**

Instruction and participation in golf.

**PEAC 1391. Fitness Walking (Irregular). 1 Hour.**

Instruction and participation in vigorous walking for cardiovascular development and improvement.

**PEAC 1431. Beginning Tennis (Irregular). 1 Hour.**

Instruction and participation in tennis.

**PEAC 1471. Beginning Badminton (Irregular). 1 Hour.**

Instruction and participation in badminton.

**PEAC 1621. Fitness Concepts (Irregular). 1 Hour.**

Acquaints students with a basic knowledge, understanding, and value of physical activity as related to optimal wellness.

**PEAC 1661. Weight Training (Irregular). 1 Hour.**

Instruction and participation in weight training. May be repeated for degree credit.

**PEAC 1801. Aerobic Dance I (Irregular). 1 Hour.**

The fundamentals of aerobic dance as a physical fitness program.

**PEAC 1831. Beginning Scuba Diving (Sp, Fa). 1 Hour.**

Instruction and participation in scuba diving. Completion of the course will NOT result in SCUBA diving certification. No open water dives are included in the course. Corequisite: Drill component.

**PEAC 1901. Special Topics (Irregular). 1 Hour.**

Instruction and participation in specialized activity. May be repeated for up to 4 hours of degree credit.

## Physics (PHYS) Courses

**PHYS 100V. Projects (Irregular). 1-2 Hour.**

Independent study in experimental or theoretical physics for lower division undergraduate students. May be repeated for up to 2 hours of degree credit.

**PHYS 1021L. Physics and Human Affairs Laboratory (Sp, Su, Fa). 1 Hour.**

Laboratory 2 hours per week. Pre- or Corequisite: PHYS 1023.

**PHYS 1021M. Honors Physics and Human Affairs Laboratory (Sp, Su, Fa). 1 Hour.**

Laboratory 2 hours per week. Pre- or Corequisite: PHYS 1023H.  
This course is equivalent to PHYS 1021L.

**PHYS 1023. Physics and Human Affairs (Sp, Su, Fa). 3 Hours.**

The great ideas of physics, together with their philosophical and social impact. Scientific topics include cosmology, relativity, quantum mechanics. Philosophical and social topics include methods and values of science, problems related to energy sources, and implications of modern weapons. Non-mathematical. Designed for non-science majors. Along with PHYS 1021L, can be used to satisfy a 4-year physical science requirement for a B.A. degree. Students who have received credit in PHYS 2013 and PHYS 2033, or PHYS 2054 and PHYS 2074 cannot also receive degree credit in this course. Corequisite: PHYS 1021L.

**PHYS 1023H. Honors Physics and Human Affairs (Sp, Su, Fa). 3 Hours.**

The great ideas of physics, together with their philosophical and social impact. Scientific topics include cosmology, relativity, quantum mechanics. Philosophical and social topics include methods and values of science, problems related to energy sources, and implications of modern weapons. Non-mathematical. Designed for non-science majors. Along with PHYS 1021L, can be used to satisfy a 4-year physical science requirement for a B.A. degree. Students who have received credit in PHYS 2013 and PHYS 2033, or PHYS 2054 and PHYS 2074 cannot also receive degree credit in this course. Corequisite: PHYS 1021M.  
This course is equivalent to PHYS 1023.

**PHYS 1034. Physics for Elementary Education Majors (Sp). 4 Hours.**

For elementary education majors. Physical science concepts based on state frameworks are explored in a mixed lecture/lab environment. The inquiry-based lab activities can be transferable for school classroom use. Topics covered include: scientific inquiry, motion and forces, conservation of energy, heat, light, electricity and simple circuits, and magnetism. Prerequisite: Elementary education major. Corequisite: Lab component.

**PHYS 1044. Physics for Architects I (Fa). 4 Hours.**

The relation between the principles of physics and the practice of building and operating structures. Topics include: The behavior of structures under various loads, the statics and dynamics of fluids, thermal storage, thermal expansion, the greenhouse effect, heat transfer, refrigeration, the energy problem, efficiency in the operation of buildings. One underlying theme is that the self-sufficiency of a building is an important part of architecture. Lecture 3 hours, laboratory 2 hours per week. Corequisite: Lab component. Prerequisite: Major in architecture or interior design or agricultural education communication & technology.

**PHYS 1054. Physics for Architects II (Sp). 4 Hours.**

Acoustics, electricity and magnetism, light, and environmental physics. Topics include resonance, acoustical isolation, interference, reverberation time, electrical circuitry with emphasis on power and efficiency, electrical storage, light sources, reflection, refraction, absorption, transmission, color, astronomy (to give perspective to the use of sunlight in architecture), heat, noise, and radioactivity pollution. Lecture 3 hours, laboratory 2 hours per week. Corequisite: Lab component. Prerequisite: PHYS 1044.

**PHYS 2011L. College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab) (Su, Fa). 1 Hour.**

Laboratory 2 hours per week. Corequisite: PHYS 2013.

**PHYS 2013. College Physics I (ACTS Equivalency = PHYS 2014 Lecture) (Su, Fa). 3 Hours.**

A non-calculus survey of the principles of physics including mechanics, heat and sound. Lecture 3 hours per week and drill 1 hour per week. Corequisite: Drill component and PHYS 2011L. Prerequisite: (MATH 1203 and MATH 1213) or (MATH 1284C or MATH 2554) or a score of at least 26 on the math component of the ACT exam, or a score of at least 600 on the math component of the SAT.

**PHYS 2031L. College Physics II Laboratory (ACTS Equivalency = PHYS 2024 Lab) (Su). 1 Hour.**

Laboratory 2 hours per week. Corequisite: PHYS 2033.

**PHYS 2033. College Physics II (ACTS Equivalency = PHYS 2024 Lecture) (Sp, Su). 3 Hours.**

Continuation of PHYS 2013. Topics include electricity and magnetism, light, relativity, quantum mechanics, atomic and nuclear structure. Lecture 3 hours, drill 1 hour per week. Corequisite: Drill component and PHYS 2031L. Prerequisite: PHYS 2013.

**PHYS 2054. University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa). 4 Hours.**

Introduction to the principles of mechanics, wave motion, temperature and heat, with calculus. Lecture three hours per week and practicum two hours a week (included in lab component). Pre- or Corequisite: MATH 2554. Corequisite: Lab component.

**PHYS 2054H. Honors University Physics I (Sp, Su, Fa). 4 Hours.**

Introduction to the principles of mechanics, wave motion, temperature and heat, with calculus. Lecture three hours per week and practicum two hours a week (included in lab component). Pre- or Corequisite: MATH 2554. Corequisite: Lab component.  
This course is equivalent to PHYS 2054.

**PHYS 2074. University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa). 4 Hours.**

Continuation of PHYS 2054. Topics covered include electricity, magnetism, light and geometric optics. Lecture three hours per week and practicum two hours per week. Pre- or Corequisite: MATH 2564. Corequisite: Lab component. Prerequisite: PHYS 2054.

**PHYS 2074H. Honors University Physics II (Sp). 4 Hours.**

Continuation of PHYS 2054H. Topics covered include electricity, magnetism, light and geometric optics. Lecture three hours per week and practicum two hours per week. Pre- or Corequisite: MATH 2564. Corequisite: Lab component. Prerequisite: PHYS 2054 or PHYS 2054H.

This course is equivalent to PHYS 2074.

**PHYS 2094. University Physics III (Fa). 4 Hours.**

A continuation of PHYS 2054 and PHYS 2074. Topics include waves, physical optics, thermodynamics, kinetic theory, and an introduction to quantum mechanics. Lecture 3 hours per week and practicum 2 hours per week (included in lab component). Pre- or Corequisite: MATH 2574. Corequisite: Lab component. Prerequisite: PHYS 2074.

**PHYS 306V. Projects (Irregular). 1-3 Hour.**

Individual experimental or theoretical research problems for advanced undergraduates. May be repeated for up to 3 hours of degree credit.

**PHYS 3113. Analytical Mechanics (Fa). 3 Hours.**

Newton's laws of motion applied to particles, systems of particles, and rigid bodies. Introduction to Hamilton's and Lagrange's equations. Pre- or Corequisite: MATH 2584.

**PHYS 3213. Electronics in Experimental Physics (Odd years, Sp). 3 Hours.**

DC & AC electronics, semiconductors, operational amplifiers, and digital logic circuits with lab applications in experimental physics. Corequisite: Lab component. Prerequisite: PHYS 2094 or instructor consent.

**PHYS 3273. UAteach Research Methods (Sp). 3 Hours.**

A project-based course for prospective science and mathematics teachers utilizing scientific research methods and inquiry to solve research problems. Prerequisite: ARSC 1201 and ARSC 1221 and junior standing.  
This course is cross-listed with CHEM 3273, BIOL 3273.

**PHYS 3273H. Honors Uteach Research Methods (Sp). 3 Hours.**

A project-based course for prospective science and mathematics teachers utilizing scientific research methods and inquiry to solve research problems. Prerequisite: ARSC 1201 and ARSC 1221, junior standing and honors. This course is cross-listed with PHYS 3273, CHEM 3273, BIOL 3273.

**PHYS 3414. Electromagnetic Theory (Sp). 4 Hours.**

Electrostatics including dielectrics, magnetostatics and magnetic materials. Maxwell's equations, radiation theory, and wave propagation. Prerequisite: MATH 2574 and PHYS 2074. Pre- or Corequisite: MATH 2584.

**PHYS 3544. Optics (Fa). 4 Hours.**

Elements of geometrical, physical, and quantum optics. Lecture 3 hours, laboratory 2 hours. Corequisite: Lab component. Prerequisite: PHYS 2074 or MATH 2564.

**PHYS 3603. Introduction to Modern Physics (Fa). 3 Hours.**

An introduction to the basic ideas of 20th century physics, with an emphasis on those that form the foundations of modern technology: quantum theory and its application to atomic, nuclear, optical and condensed matter physics. No credit is given toward a B.S. degree in physics. Prerequisite: PHYS 2033 and MATH 2043 or MATH 2554.

**PHYS 360VL. Modern Physics Laboratory (Sp). 1-3 Hour.**

Experiments illustrating the development and concepts of modern physics. No credit given toward a B.S. major in physics. Prerequisite: PHYS 3603.

**PHYS 3613. Modern Physics (Sp, Su, Fa). 3 Hours.**

Introduction to special relativity, statistical physics, quantum physics, and a survey of molecules, solids, and statistical physics. Prerequisite: PHYS 2074.

**PHYS 3923H. Honors Colloquium (Irregular). 3 Hours.**

Covers a special topic or issue, offered as part of the honors program. No more than 3 hours may be offered toward fulfillment of the requirements for the B.S. or B.A. degree in Physics. Prerequisite: Honors candidacy (not restricted to candidacy in physics). May be repeated for degree credit.

**PHYS 399VH. Honors (Sp, Su, Fa). 1-6 Hour.**

Independent study for physics students enrolled in the honors program. Prerequisite: Junior standing. May be repeated for up to 6 hours of degree credit.

**PHYS 400V. Laboratory and Classroom Practices in Physics (Sp, Su, Fa). 1-3 Hour.**

The pedagogy of curricular materials. Laboratory and demonstration techniques illustrating fundamental concepts acquired through participation in the classroom as an apprentice teacher. Prerequisite: PHYS 3113 or PHYS 3414.

**PHYS 4073. Introduction to Quantum Mechanics (Fa). 3 Hours.**

A survey of quantum mechanics from the wave mechanical point of view including the application of quantum mechanics to the simple harmonic oscillator, angular momentum, and the hydrogen atom. Required course for B.S. Physics majors. Prerequisite: PHYS 3613, MATH 2574, and MATH 2584.

**PHYS 4103. Physics in Perspective (Odd years, Sp). 3 Hours.**

Human implications of physics, including life's place in the universe, the methods of science, human sense perceptions, energy utilization, social impacts of technology, and the effect of physics on modern world views. No credit given toward a B.S. major in Physics. Prerequisite: PHYS 3603 or PHYS 3613.

**PHYS 4113. Physics in Perspective (Odd years, Sp). 3 Hours.**

Human implications of physics, including life's place in the universe, the methods of science, human sense perceptions, energy utilization, social impacts of technology, and the effect of physics on modern world views. Credit allowed for only one of PHYS 4113 or PHYS 4103. Prerequisite: PHYS 3613.

**PHYS 4203. Physics of Devices (Even years, Sp). 3 Hours.**

Principles of physics applied in a selection of technologically important devices in areas including computing, communications, medical imaging, lasers, and energy utilization. Students will utilize technical journals. No credit given toward a B.S. major in Physics. Prerequisite: PHYS 3603 or PHYS 3613.

**PHYS 4213. Physics of Devices (Odd years, Fa). 3 Hours.**

Principles of physics applied in a selection of technologically important devices in areas including computing, communications, medical imaging, lasers, and energy utilization. Students will utilize technical journals. Credit allowed for only one of PHYS 4203 or PHYS 4213. Prerequisite: PHYS 3613.

**PHYS 4333. Thermal Physics (Sp). 3 Hours.**

Equilibrium thermodynamics, statistical physics, and kinetic energy. Prerequisite: PHYS 3613.

**PHYS 4613. Introduction to Biophysics and Biophysical Techniques (Even years, Sp). 3 Hours.**

Origins of biophysics, biological polymers and polymer physics, properties of DNA and proteins, techniques to study DNA and proteins, biological membrane and ion channels, biological energy, experimental techniques to study single DNA and proteins. Two experiments are included: (1) DNA Gel electrophoresis; (2) Measurement of double-stranded DNA melting point. Prerequisite: PHYS 3613 and PHYS 4333, or consent.

This course is cross-listed with PHYS 5613.

**PHYS 462VL. Modern Physics Laboratory (Sp). 1-3 Hour.**

Advanced experiments, projects, and techniques in atomic, nuclear, and solid state physics. Prerequisite: PHYS 3613.

**PHYS 4653. Subatomic Physics (Odd years, Fa). 3 Hours.**

Nuclear structure and nuclear reactions. Nature and properties of elementary particles and resonances, their interactions and decays. Phenomenological theory and discussion of experimental evidence. Prerequisite: PHYS 3613.

This course is cross-listed with PHYS 5653.

**PHYS 4713. Solid State Physics (Even years, Sp). 3 Hours.**

Crystal structure, diffraction and symmetry. Lattice vibrations, elasticity and optical properties. Electronic structure, band theory, transport and magnetism. Course emphasizes applications and current topics in semiconductors, optics and magnetism. Pre- or Corequisite: PHYS 3414 and PHYS 4073.

**PHYS 4734. Introduction to Laser Physics (Sp). 4 Hours.**

A combined lecture/laboratory course covering the theory of laser operation, laser resonators, propagation of laser beams, specific lasers such as gas, solid state, semiconductor and chemical lasers, and laser applications. Prerequisite: PHYS 3414 and PHYS 3544.

**PHYS 4773. Introduction to Optical Properties of Materials (Even years, Sp). 3 Hours.**

A course covering crystal symmetry optical transmission and absorption, light scattering (Raman and Brillouin) optical constants, carrier mobility, and polarization effects in semi-conductors, quantum wells, insulators, and other optically important materials. Prerequisite: PHYS 3414 and PHYS 3544.

**PHYS 4793L. Nanotechnology Laboratory (Fa). 3 Hours.**

Provides students with hands-on experience in several major areas of nanotechnology, including nanoscale imaging, synthesis of nanomaterials, nanostructure assembly and manipulation, device and system integration, and performance evaluation. Students can earn credit for only one of the following courses: MEEG 4323L, BENG 4753L, BMEG 4103L, CHEM 4153L, PHYS 4793L. Corequisite: Drill component, junior standing and instructor consent. Prerequisite: MATH 2564, PHYS 2074, CHEM 1123 or CHEM 1133.

This course is cross-listed with MEEG 4323L, CHEM 4153L.

**PHYS 4793M. Honors Nanotechnology Laboratory (Fa). 3 Hours.**

Provides students with hands-on experience in several major areas of nanotechnology, including nanoscale imaging, synthesis of nanomaterials, nanostructure assembly and manipulation, device and system integration, and performance evaluation. Students can earn credit for only one of the following courses: MEEG 4323L, BENG 4753L, BMEG 4103L, CHEM 4153L, PHYS 4793L. Corequisite: Drill component, junior standing and instructor consent. Prerequisite: MATH 2564, PHYS 2074, CHEM 1123 or CHEM 1133. This course is cross-listed with MEEG 4323L, CHEM 4153L, PHYS 4793L.

**PHYS 4803. Mathematical Physics (Irregular). 3 Hours.**

Development of mathematics used in advanced physics, including tensors, matrices, group theory, special functions and operators. Prerequisite: MATH 2584.

**PHYS 498V. Senior Thesis (Sp, Su, Fa). 1-6 Hour.****PHYS 4991. Physics Senior Seminar (Sp, Su, Fa). 1 Hour.**

Student mastery of the principles of physics are assessed by means of research paper writing and an examination chosen by the faculty. The research paper may be used to satisfy the Fulbright College writing requirement. (Required of all B.S. and B.A. physics majors in their last year.)

**PHYS 500V. Seminar (Irregular). 1-3 Hour.**

Regular informal discussions of research reported in journals and monographs. May be repeated for up to 3 hours of degree credit.

**PHYS 5011. Introduction to Current Physics Research Seminar (Fa). 1 Hour.**

This seminar course introduces new Physics graduate students to the faculty of the Physics department and their current research efforts. In addition, the students will be introduced to scientific ethics, and learn communication skills.

**PHYS 502V. Individual Study in Advanced Physics (Sp, Fa). 1-4 Hour.**

Guided study in current literature. May be repeated for up to 4 hours of degree credit.

**PHYS 5033. Design and Fabrication of Scientific Apparatus (Irregular). 3 Hours.**

Students will learn mechanical and electronic techniques used in the design and fabrication of scientific apparatus. (This course cannot be used to satisfy degree requirements in any physics program.)

**PHYS 5041. Journal Club Seminar (Sp). 1 Hour.**

In this seminar, the students will present talks based on published research articles. The goal of the course is to develop oral communication skills in the students. Effective literature search techniques will also be covered.

**PHYS 5073. Mathematical Methods for Physics (Fa). 3 Hours.**

This course merges the mathematics required in classical mechanics, electrostatics, magnetostatics, and quantum mechanics into a single course. The goal is to develop physics problem-solving skills, a strong mathematical foundation, and a more unified picture of physics. Prerequisite: MATH 4423 and PHYS 3414.

**PHYS 5083. Mathematical Methods of Physics II (Irregular). 3 Hours.**

Applications of matrices, tensors, and linear vector spaces to problems in physics. Introduction to groups and their representations, and symmetry principles in modern physics. Prerequisite: PHYS 5073.

**PHYS 5093. Applications of Group Theory to Physics (Sp). 3 Hours.**

Application of group theory to topics in physics, especially to atomic/molecular and solid-state physics. Prerequisite: PHYS 5073.

**PHYS 5103. Advanced Mechanics (Fa). 3 Hours.**

Dynamics of particles and rigid bodies. Hamilton's equations and canonical variables. Canonical transformations. Small oscillations. Prerequisite: PHYS 5073.

**PHYS 5111. Research Techniques Through Laboratory Rotations (Sp). 1 Hour.**

Graduate students will be introduced to detailed operational aspects of two Physics research laboratories through extensive observation of those laboratory's operations during a six week rotation through each lab. Planning for starting a research project in the summer will take place in the final three week rotation period.

**PHYS 5213. Statistical Mechanics (Odd years, Fa). 3 Hours.**

Classical and quantum mechanical statistical theories of matter and radiation. Prerequisite: PHYS 4333 and PHYS 4073 or PHYS 5413.

**PHYS 5263L. Experiment and Data Analysis (Sp). 3 Hours.**

This course is devoted to learning some of the frequently used experimental techniques and methods by which experimental data are analyzed to extract quantitative information on physical parameters. Students will perform experiments, analyze data, and write lab reports. Pre- or Corequisite: PHYS 5423. Prerequisite: Graduate standing or instructor consent.

**PHYS 5313. Advanced Electromagnetic Theory I (Fa). 3 Hours.**

Electrostatics, boundary-value problems in electrostatics, electrostatics in a medium, magnetostatics, and Faraday's Law.

**PHYS 5323. Advanced Electromagnetic Theory II (Sp). 3 Hours.**

Maxwell equations, conservation laws, wave propagation, waveguides, radiating systems, scattering, special relativity, and radiation by moving charges.

**PHYS 5363. Scientific Computation and Numerical Methods (Fa). 3 Hours.**

An introduction to numerical methods used in solving various problems in engineering and the sciences. May not earn credit for this course and MATH 4353 or MATH 4363.

This course is cross-listed with MATH 5363.

**PHYS 5413. Quantum Mechanics I (Fa). 3 Hours.**

Non-relativistic quantum mechanics; the Schrodinger equation; the Heisenberg matrix representation; operator formalism; transformation theory; spinors and Pauli theory; the Dirac equation; applications to atoms and molecules; collision theory; and semiclassical theory of radiation. Prerequisite: PHYS 4073.

**PHYS 5423. Quantum Mechanics II (Sp). 3 Hours.**

Continuation of PHYS 5413 Prerequisite: PHYS 5413.

**PHYS 5513. Atomic and Molecular Physics (Odd years, Sp). 3 Hours.**

Survey of atomic and molecular physics with emphasis on the electronic structure and spectroscopy of 1 and 2 electron atoms and diatomic molecules. Includes fine and hyperfine structure, Zeeman and Stark mixing of states, collision phenomena, radiative lifetimes, and experimental techniques. Prerequisite: PHYS 4073 or PHYS 5413.

**PHYS 5523. Theory of Relativity (Even years, Fa). 3 Hours.**

Conceptual and mathematical structure of the special and general theories of relativity with selected applications. Critical analysis of Newtonian mechanics; relativistic mechanics and electrodynamics; tensor analysis; continuous media; and gravitational theory.

**PHYS 5613. Introduction to Biophysics and Biophysical Techniques (Sp, Fa). 3 Hours.**

Origins of biophysics, biological polymers and polymer physics, properties of DNA and proteins, techniques to study DNA and proteins, biological membrane and ion channels, biological energy, experimental techniques to study single DNA and proteins. Two experiments are included: (1) DNA Gel electrophoresis; (2) Measurement of double-stranded DNA melting point. This course is cross-listed with PHYS 4613.

**PHYS 5653. Subatomic Physics (Irregular). 3 Hours.**

Nuclear structure and nuclear reactions. Nature and properties of elementary particles and resonances, their interactions and decays. Phenomenological theory and discussion of experimental evidence. Prerequisite: PHYS 3613.

This course is cross-listed with PHYS 4653.

**PHYS 5713. Condensed Matter Physics I (Sp, Fa). 3 Hours.**

The course covers the Drude theory and the Sommerfeld theory of metals, crystal lattices, reciprocal lattices, X-ray diffraction, Bloch's theory of electrons in periodic potential, formation of band gap, lattice vibration, and cohesive energy in solids. Prerequisite: PHYS 5413.

**PHYS 5723. Physics at the Nanoscale (Sp). 3 Hours.**

This is a cross-disciplinary course that is focused on teaching nanoscience and engineering by studying surface science, the building and analysis of quantum-confined structures, and related nano manufacturing processes. Students will achieve an integrated knowledge of the concepts of surface science, quantum mechanics, nano processing and manipulation, and techniques of materials research.

This course is cross-listed with MEPH 5723.

**PHYS 5734. Laser Physics (Sp). 4 Hours.**

A combined lecture/laboratory course covering the theory of laser operation, laser resonators, propagation of laser beams, specific lasers such as gas, solid state, semiconductor and chemical lasers, and laser applications. Prerequisite: PHYS 3414 and PHYS 3544.

**PHYS 5753. Applied Nonlinear Optics (Even years, Fa). 3 Hours.**

Topics include: practical optical processes, such as electro-optic effects, acousto-optic effects, narrow-band optical filters, second harmonic generation, parametric amplification and oscillation, and other types of nonlinear optical spectroscopy techniques which are finding current practical applications in industry. Prerequisite: PHYS 3414 and PHYS 3544.

**PHYS 5763. Experimental Methods for Nanoscience (Irregular). 3 Hours.**

Fundamentals of the selected techniques suitable for characterization on the nanoscale. Focus on diverse methods such as x-ray and neutron spectroscopy, scanning probe microscopies, optical methods, electron diffraction methods and more.

**PHYS 5773. Introduction to Optical Properties of Materials (Sp). 3 Hours.**

This course covers crystal symmetry optical transmission and absorption, light scattering (Raman and Brillouin) optical constants, carrier mobility, and polarization effects in semi-conductors, quantum wells, insulators, and other optically important materials. Prerequisite: PHYS 3414 and PHYS 3544 or permission of Instructor.

**PHYS 588V. Selected Topics in Experimental Physics (Irregular). 1-3 Hour.**

May be repeated for up to 3 hours of degree credit.

**PHYS 590V. Master of Arts Research (Sp, Su, Fa). 1-6 Hour.****PHYS 600V. Master of Science Thesis (Sp, Su, Fa). 1-6 Hour.**

Master of Science Thesis. May be repeated for degree credit.

**PHYS 6413. Quantum Mechanics III (Even years, Fa). 3 Hours.**

Relativistic quantum mechanics, second quantization, with applications to quantizing electromagnetic fields and to many-body theory. Introduction to Feynman diagrams. Prerequisite: PHYS 5423.

**PHYS 6513. Advanced Topics in Complexity (Irregular). 3 Hours.**

The goal of the course is to give students tools to investigate the behavior of complex systems and to analyze the relationship of non-linear dynamics and chaos theory to complex biological and non-biological systems. A special emphasis will be given to understanding the way neurons work as biological computing elements.

**PHYS 6613. Quantum Optics (Even years, Fa). 3 Hours.**

Properties of light and its interaction with atoms, particular attention given to the laser and recent experiments. Classical theory of resonance; Optical Bloch Eqs.; 2 level atoms in steady fields; pulse propagation; semiclassical theory of the laser, coherent states and coherent functions; gas, solid, and dye lasers; photon echoes and superradiance; quantum electrodynamics and spontaneous emission. Prerequisite: PHYS 5413 or equivalent.

**PHYS 6713. Condensed Matter Physics II (Even years, Sp). 3 Hours.**

The course covers surface physics, physics of homogeneous and inhomogeneous semiconductors, dielectric and ferroelectric physics, defects in crystals, spin interaction and magnetic properties, superconductivity, and band structure calculation. Prerequisite: PHYS 5713 and PHYS 5413.

**PHYS 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Doctoral Dissertation. May be repeated for degree credit.

## Plant Pathology (PLPA) Courses

**PLPA 3004. Principles of Plant Pathology (Fa). 4 Hours.**

Examination of the causes and symptoms of plant disease and the genetics of plant disease. Physiology, and ecology of host-pathogen interactions. Spread of disease and principles of disease control. Corequisite: Lab component. This course is cross-listed with BIOL 3004.

**PLPA 400V. Research (Sp, Su, Fa). 1-6 Hour.**

Original investigations of assigned problems in plant pathology. Prerequisite: PLPA 3004.

**PLPA 4223. Plant Disease Control (Fa). 3 Hours.**

Principles, methods and mechanics of plant disease control. Emphasis is given to the integration of control measures and epidemiology of plant diseases. Lecture 3 hours per week. Prerequisite: PLPA 3004.

This course is cross-listed with BIOL 4133.

**PLPA 4304. Applied Plant Disease Management (Irregular). 4 Hours.**

A plant pathology course emphasizing practical understanding of the concepts and principles of agronomic and horticultural crop disease management, including disease diagnosis, monitoring, and using models to forecast disease events. Prerequisite: PLPA 3004 or instructor consent.

**PLPA 4333. Biotechnology in Agriculture (Fa). 3 Hours.**

Discussion of the techniques, applications, and issues of biotechnology as it is being used in modern agriculture. Coverage includes the basics of molecular biology, production of transgenic plants and animals, and new applications in the agricultural, food, and medical marketplace. Lecture and discussion, 3 hours per week. This course is cross-listed with BIOL 4333.

**PLPA 462V. Internship (Irregular). 1-6 Hour.**

Supervised practical work experience in pest management to develop and demonstrate professional competence. A maximum of 6 hours credit per semester or summer session is permitted. Faculty approval of projects proposal prior to enrollment, and written or oral reports are required. May be repeated for up to 9 hours of degree credit.

**PLPA 5001. Seminar (Sp, Fa). 1 Hour.**

Review of scientific literature and oral reports on current research in plant pathology. Prerequisite: Graduate standing. May be repeated for up to 4 hours of degree credit.

**PLPA 502V. Special Problems Research (Sp, Su, Fa). 1-6 Hour.**

Original investigations of assigned problems in plant pathology. Prerequisite: Graduate standing.

**PLPA 504V. Special Topics (Irregular). 1-18 Hour.**

Lecture topics of current interest not covered in other courses in plant pathology or other related areas. Prerequisite: Graduate standing. May be repeated for up to 18 hours of degree credit.

**PLPA 5223. Plant Disease Control (Fa). 3 Hours.**

(Formerly PLPA 4223.) Principles, methods and mechanics of plant disease control. Emphasis is given to the integration of control measures and epidemiology of plant diseases. Lecture 3 hours per week. Graduate degree credit will not be given for both PLPA 4223 and PLPA 5223.

**PLPA 5303. Advanced Plant Pathology: Host-Pathogen Interactions (Odd years, Sp). 3 Hours.**

Presentation of important contemporary concepts relative to disease resistance and the physiology, biochemistry, and molecular biology of plant-pathogen interactions. Lecture 3 hours per week. Prerequisite: PLPA 3004 or equivalent and graduate standing.

**PLPA 5313. Advanced Plant Pathology: Ecology and Epidemiology (Even years, Sp). 3 Hours.**

Presentation of important contemporary concepts relative to the ecology and epidemiology of foliar and soil-borne plant pathogens. Lecture 3 hours per week. Prerequisite: PLPA 3004 and graduate standing.

**PLPA 5324. Applied Plant Disease Management (Irregular). 4 Hours.**

(Formerly PLPA 4304.) A plant pathology course emphasizing practical understanding of the concepts and principles of agronomic and horticultural crop disease management, including disease diagnosis, monitoring, and using models to forecast disease events. Graduate degree credit will not be given for both PLPA 4304 and PLPA 5324.

**PLPA 5333. Biotechnology in Agriculture (Fa). 3 Hours.**

(Formerly PLPA 4333.) Discussion of the techniques, applications, and issues of biotechnology as it is being used in modern agriculture. Coverage includes the basics of molecular biology, production of transgenic plants and animals, and new applications in the agricultural, food, and medical marketplace. Lecture and discussion, 3 hours per week. Graduate degree credit will not be given for both PLPA 4333 and PLPA 5333.

**PLPA 5404. Diseases of Economic Crops (Su). 4 Hours.**

Diagnosis and management of important diseases of cotton, fruits, rice, trees, soybeans, wheat, and vegetables will be covered in a lecture, laboratory, and field format. Lecture 2 hours, laboratory 4 hours per week. Four 1-day field trips will be involved. Corequisite: Lab component. Prerequisite: PLPA 3004.

**PLPA 5603. Plant Pathogenic Fungi (Odd years, Fa). 3 Hours.**

Plant Pathogenic Fungi is structured as an integrated lecture/laboratory class designed for students that are interested in developing an understanding and appreciation for taxonomy, biology, and ecology of plant pathogenic fungi and related saprophytic fungi. Corequisite: Lab component. Prerequisite: PLPA 3004 or BIOL 4424 or graduate standing.

**PLPA 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Master's Thesis. Prerequisite: Graduate standing. May be repeated for degree credit.

**PLPA 6203. Plant Virology (Even years, Fa). 3 Hours.**

Lecture emphasizing discussion of recent advances in plant virology. Laboratory concerned with techniques and equipment used in plant virus studies, including transmission of viruses, characterization utilizing ultracentrifugation, spectrophotometry, electrophoresis, electron microscopy, and serology. Lecture 2 hours, laboratory 3 hours per week. Corequisite: Lab component. Prerequisite: CHEM 5813 or CHEM 5843 or CHEM 6873 or consent of instructor.

**PLPA 6303. Plant Nematology (Even years, Fa). 3 Hours.**

Nematodes and their relationship to plant diseases, with consideration of identification, morphology, biology, distribution, association with disease complexes and control. Lecture 2 hours, laboratory 2 hours per week. Corequisite: Lab component. Prerequisite: Graduate standing.

**PLPA 6503. Plant Bacteriology (Odd years, Sp). 3 Hours.**

Current concepts and techniques in plant bacteriology, including taxonomic, ecological and molecular aspects of plant pathogenic bacteria and their interactions with hosts. Lecture 2 hours, laboratory 2 hours per weeks. Corequisite: Lab component. Prerequisite: BIOL 2013 and BIOL 2011L. May be repeated for up to 3 hours of degree credit.

## Plant Sciences (PTSC)

### Courses

**PTSC 6101. Colloquium in Plant Sciences (Sp). 1 Hour.**

Advanced discussion of topics in plant science on a participatory basis. Topics in plant pathology, horticulture and forestry will be treated. Prerequisite: Graduate standing. May be repeated for up to 2 hours of degree credit.

**PTSC 6203. Laboratory Instrumentation in Plant Science (Irregular). 3 Hours.**

Principles, capabilities, and operation of laboratory instrumentation utilized in plant science research. Lecture 2 hours, laboratory 3 hours per week. Corequisite: Lab component.

**PTSC 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Doctoral Dissertation. Prerequisite: Graduate standing. May be repeated for degree credit.

## Political Science (PLSC)

### Courses

**PLSC 2003. American National Government (ACTS Equivalency = PLSC 2003) (Sp, Su, Fa). 3 Hours.**

Survey of the history, basic ideas, structure, and political processes of the national government of the United States, including the fundamental relationships of the federal system. Required of all political science majors.

**PLSC 2003H. Honors American National Government (Fa). 3 Hours.**

Survey of the history, basic ideas, structure, and political processes of the national government of the United States, including the fundamental relationships of the federal system.

This course is equivalent to PLSC 2003.

**PLSC 2013. Introduction to Comparative Politics (Sp, Su, Fa). 3 Hours.**

An introductory survey of comparative political systems.

**PLSC 2203. State and Local Government (ACTS Equivalency = PLSC 2103) (Odd years, Fa). 3 Hours.**

Organization and functions of state and local governments in the United States, intergovernmental relations, administration, adjudication, and the organization and function of political parties on state and local levels.

**PLSC 2813. Introduction to International Relations (Sp, Fa). 3 Hours.**

Introduction to the international system, theories of international behavior, political economy, conflict and peacemaking, the third world, international law and organizations, and the nature of the post-cold war world.

**PLSC 300V. Internship in Public Affairs (Sp, Su, Fa). 1-3 Hour.**

Work experience in a public agency arranged by the student under the guidance of a faculty member. Paper required. May be repeated for up to 6 hours of degree credit.

**PLSC 3103. Public Administration (Sp). 3 Hours.**

Trends and organization of public administration, dynamics of management; fiscal and personnel management; administrative powers and responsibility. Prerequisite: PLSC 2003.

**PLSC 3153. Public Policy (Fa). 3 Hours.**

A study of public policy formulation, implementation, and evaluation at various levels of government. Prerequisite: PLSC 2003.

**PLSC 3183. Public Personnel Management (Irregular). 3 Hours.**

Development of the merit system in government, career systems, human resource planning and development, labor relations, diversity issues, and the legal dimension of public personnel systems. Prerequisite: PLSC 2003.

**PLSC 3203. Introduction to Legal Studies (Sp, Fa). 3 Hours.**

An examination of the legal profession, legal writing, and the substantive areas of law in the U.S. Prerequisite: PLSC 2003.

**PLSC 3213. The South and the Law: Race, Gender, and Citizenship (Fa). 3 Hours.**

Examines the experience of racial and ethnic minorities, as well as women, in the post-Civil War South. Explores legal ramifications and tracks cultural and political legacies of landmark cases and/or legislative acts.

**PLSC 3223. Arkansas Politics and the Nation (Sp). 3 Hours.**

An examination of Arkansas Politics including the political process, public policies, social problems, political behavior, governmental structure, and contemporary issues with an emphasis on the historical, regional, and national context. Prerequisite: PLSC 2003.

**PLSC 3233. The American Congress (Fa). 3 Hours.**

Thorough examination of the constitutional role of the legislative branch under the Constitution; the internal procedures and personalities of the Senate and House; the central place of Congress in shaping domestic and foreign policy. Prerequisite: PLSC 2003.

**PLSC 3243. The Judicial Process (Fa). 3 Hours.**

The structure and operation of the state and national court systems. Emphasis is upon the role of the judiciary in the American political system and the political aspects and consequences of judicial decision-making. Prerequisite: PLSC 2003.

**PLSC 3253. Urban Politics (Sp). 3 Hours.**

Analysis of comparative urban systems, including political process, public policy, social problems, governmental structure, and voter behavior. Prerequisite: PLSC 2003.

**PLSC 3263. Latino Politics (Fa). 3 Hours.**

Analyzes the social, economic, and political issues impacting the Latino (or Hispanic) community in the United States. Attention is paid to how the community itself responds to and influences these factors.

**PLSC 3283. Civil Rights Policy and Politics (Sp). 3 Hours.**

This course will draw from linkages between the protest phase of the civil rights and American political institutions. The course explores the institutional impact of the civil rights movement on the presidency, congress, the courts, administrative regulatory agencies, and civil rights advisory organizations.

This course is cross-listed with AAST 3283.

**PLSC 3293. African American Politics (Fa). 3 Hours.**

This is a survey course designed to provide students with a comprehensive overview of African American political participation in the United States. In addition to analyzing important events in African American Politics, the course attempts to explain evolving patterns of political participation in Black America.

This course is cross-listed with AAST 3293.

**PLSC 3303. American Political Development (Irregular). 3 Hours.**

Examines the evolution of the American State and corresponding governmental and political institutions. Topics include models of political change and evolution, American political culture(s), governing institutional structures at the national level, the evolution of federalism, political linkage structures, and public policy. Prerequisite: PLSC 2003.

**PLSC 3503. Governments and Politics of East Asia (Fa). 3 Hours.**

Comparative analysis of structures, processes, and problems of the political systems of the Democratic Republic of Vietnam, Japan, and the Peoples Republic of China. Prerequisite: PLSC 2013.

**PLSC 3523. Politics of the Middle East (Fa). 3 Hours.**

Survey of the unity and diversity in the political development of the Middle East, as evident in historical legacies, state formation, civil society, social class, and political identity.

**PLSC 3553. Western European Politics (Irregular). 3 Hours.**

Comparative analysis of Western European parliamentary systems with special attention to political traditions, constitutional arrangements, socio-economic structure, and the political and legislative processes in countries such as Britain, France, and Germany. Prerequisite: PLSC 2003 or PLSC 2013.

**PLSC 3573. Governments and Politics of Latin America (Irregular). 3 Hours.**

Comparative survey of Latin America political forces and institutions with special attention to patterns and problems of political change and development in that area. Prerequisite: PLSC 2013.

**PLSC 3593. Politics of Mexico (Sp). 3 Hours.**

A comparative survey of contemporary Mexican politics emphasizing Mexico's historical-institutional trajectory in relation to the US, North American relations, and the experiences of Mexicans in Greater (Gran) Mexico. Prerequisite: PLSC 2013.

**PLSC 3603. Scope and Methods of Political Science (Irregular). 3 Hours.**

The basic principles and assumptions of political inquiry (methodology) and research techniques for gathering and analyzing data about political phenomena. Prerequisite: PLSC 2003.

**PLSC 3803. International Organization (Sp). 3 Hours.**

The theory and practice of international organizations past and present, with emphasis on the United States and a critical examination of current trends. Prerequisite: Junior standing.

**PLSC 3813. International Law (Fa). 3 Hours.**

Analysis of the traditional principles of public international law including the law of war, the law of sea and air, and the legal nature of statehood; and analysis of selected principles of private international law relevant to such topics as the multinational corporation, international arbitration, commerce with Communist states, and the expropriation of foreign property. Prerequisite: Junior standing.

**PLSC 3823. Theories of International Relations (Sp). 3 Hours.**

Analysis of major intellectual traditions in the field of international relations, including realism, liberalism, and social constructivism. Emphasis will be placed on how they help us to understand war, revolution, global capitalism, nationalism, peace, and other significant international phenomena. Prerequisite: PLSC 2003 and PLSC 2013.

**PLSC 3853. American Foreign Policy (Fa). 3 Hours.**

The structure and process for making and implementing the foreign policy of the United States, and an evaluation of current policies in the contemporary international milieu. Prerequisite: PLSC 2003 or PLSC 2013.

**PLSC 390V. Special Topics (Sp, Su, Fa). 1-3 Hour.**

Special topics in political science. May be repeated for degree credit.

**PLSC 3913. American Political Thought Before 1900 (Irregular). 3 Hours.**

Major ideas, issues, and arguments in American Political Thought from the colonial period to approximately 1900. May be repeated for degree credit.

**PLSC 3923H. Honors Colloquium (Irregular). 3 Hours.**

Covers a special topic or issue, offered as part of the honors program. Prerequisite: Honors candidacy in political science. May be repeated for degree credit.

**PLSC 3933. Contemporary American Political Thought (Irregular). 3 Hours.**

Twentieth century American political thought, including who should participate, expanding concepts of freedom, political economy, equality, feminism, rights, conservatism and liberalism.

**PLSC 394V. Readings in Political Science (Sp, Su, Fa). 1-3 Hour.**

For advanced students who wish to study some field of political science beyond the course offering available in that field. Prerequisite: Junior standing. May be repeated for up to 6 hours of degree credit.

**PLSC 3983. Politics in Literature (Sp). 3 Hours.**

Analysis of political theories and issues through extensive reading and discussion of selected works of literature. Prerequisite: PLSC 2003 or PLSC 2013.



**PLSC 399VH. Honors Course (Irregular). 1-3 Hour.**

Prerequisite: Junior standing. May be repeated for up to 6 hours of degree credit.

**PLSC 400V. Special Topics (Irregular). 1-3 Hour.**

Topics in political science not usually covered in other courses. May be repeated for degree credit.

**PLSC 4103. Introduction to Urban Planning (Fa). 3 Hours.**

Reviews the many forms, functions, and purposes of American cities. Covers basic planning theories, surveys the various sub-fields of planning, discusses trends in the planning field, and utilizes computer simulations. Prerequisite: PLSC 3253.

This course is cross-listed with PADM 5833.

**PLSC 4193. Administrative Law (Sp). 3 Hours.**

Legal aspects of the administrative process and the effect of legal principles and processes upon administrative decision-making. Emphasis is given to the limitation of administrative discretion and the judicial review of administrative decision.

Prerequisite: PLSC 3103 or PLSC 4253.

**PLSC 4203. American Political Parties (Irregular). 3 Hours.**

The nature, function, and history of political parties in the United States with emphasis on party membership, organization, campaign techniques, finance and electoral alliances. Prerequisite: PLSC 2003.

**PLSC 4213. Campaigns and Elections (Irregular). 3 Hours.**

This course examines the American electoral process. It is an empirical course that provides opportunities for original analysis of survey data and election returns. Emphasis is placed on the most recent federal election. Prerequisite: PLSC 2003.

**PLSC 4233. The American Chief Executive (Sp). 3 Hours.**

Offices and roles of the President and state governors of the United States focusing on the evolution of the offices in terms of responsibilities and political leadership.

Prerequisite: PLSC 2003.

**PLSC 4253. The U.S. Constitution I (Sp). 3 Hours.**

United States Supreme Court decisions involving the functions and powers of Congress, the Supreme Court, and the President and federalism. Prerequisite: PLSC 2003.

**PLSC 4263. The U.S. Constitution II (Irregular). 3 Hours.**

United States Supreme Court decisions interpreting the political, economic, and civil rights of individuals and groups. Prerequisite: PLSC 2003.

**PLSC 4273. Political Psychology (Irregular). 3 Hours.**

Examines role of the individual in the polity including basic psychological constructs of relevance to political action, the formulation and maintenance of stable political orientations, the patterns linking the individual to the polity, and major modes of inquiry. Prerequisite: PLSC 2003.

**PLSC 4283. Federalism and Intergovernmental Relations (Even years, Sp). 3 Hours.**

Analysis of changes in intergovernmental relations in the American federal system. Discussions will focus on political, economic/fiscal and administrative aspects of policy changes of the pre-and post-Reagan eras.

**PLSC 4303. History of Political Parties in the U.S. 1789-1896 (Even years, Fa). 3 Hours.**

Origin and development of the American party system from the implementation of the Constitution to the election of McKinley.

This course is cross-listed with HIST 4503.

**PLSC 4313. History of Political Parties in the United States Since 1896 (Odd years, Sp). 3 Hours.**

Response of the party system to America's emergence as an industrial nation and world power from the election of 1896 to present.

This course is cross-listed with HIST 4513.

**PLSC 4323. Racial Identity, Politics, and Public Policy (Even years, Sp). 3 Hours.**

Examines how race and perceived racial differences affect political discourse, mobilization, representation, and political outcomes. Prerequisite: PLSC 3293 or AAST 1003 or Junior standing.

This course is cross-listed with AAST 4323.

**PLSC 4333. Southern Politics (Sp). 3 Hours.**

Evaluates the significance of the southern region within the national political scene, as well as discuss the unique political history and workings of the region. Explores the various groups within the region that continue to fight for political influence and power.

**PLSC 4343. Money and Politics (Fa). 3 Hours.**

Familiarizes students with the world of money and politics in the United States. Examines the function of money in elections, the legal aspects, and the consequences of the regulatory environment. Provides a means to gain analytic computer skills and a strong foundation for further study of political science.

**PLSC 4373. Political Communication (Even years, Sp). 3 Hours.**

Study of the nature and function of the communication process as it operates in the political environment.

This course is cross-listed with COMM 4373.

**PLSC 4513. Creating Democracies (Even years, Fa). 3 Hours.**

Analyses of the creation of democracies in Europe, South America, Asia, Africa, the Middle East, East Europe, and the former Soviet Union. Prerequisite: PLSC 2013.

**PLSC 4533. China's Foreign Trade and International Order: History, Policy, and Theory (Irregular). 3 Hours.**

This interdisciplinary course explores China's foreign trade and international order by introducing students to the historical context and economic theory necessary for understanding China's role in the international trading system from the ancient past to the contemporary era.

This course is cross-listed with HIST 4533, ECON 4533.

**PLSC 4563. Government and Politics of Russia (Even years, Sp). 3 Hours.**

Study of Russian and Soviet politics after 1917 and of the democratization of Russia and the other successor states. Prerequisite: PLSC 2003 or PLSC 2013.

**PLSC 4573. Gender and Politics (Irregular). 3 Hours.**

Examines the significance of gender in politics. Includes discussion of the women's movement and feminist theory, but emphasizes the content and process of public policy as it relates to women and men. Focus is on the U.S. but final third is devoted to comparative topics. Prerequisite: PLSC 2003 or PLSC 2013.

**PLSC 4583. Political Economy of East Asia (Sp). 3 Hours.**

Development strategies and policies of major economies in East Asia. Topics include theories for East Asia's economic growth, dynamics and process of East Asian political and economic developments, strengths and limits of the East Asian development model, Asian values and their implications for Asian-style democracy, and dynamics of regional cooperation.

**PLSC 4593. Islam and Politics (Fa). 3 Hours.**

Compares contemporary Islamist political movements. Seeks to explain causes, debates, agendas, and strategies of Islamists in the political realm. Addresses sovereignty, the rule of law, visions of the good state and society, and relations between nationalism, religion and political development. Focus on Middle East with comparative reference to other cases.

**PLSC 4613. Social Network Analysis (Fa). 3 Hours.**

Introduces the fundamentals of Social Network Analysis (SNA), and its applications for research in various social science fields. Prerequisite: SOCI 2013.

This course is cross-listed with SOCI 4183.

**PLSC 4803. Foreign Policy Analysis (Irregular). 3 Hours.**

Comparative analysis of foreign policy, with attention paid to explanations at a variety of levels, such as the individual, group, organizational, societal, systemic.

**PLSC 4823. Foreign Policy of East Asia (Sp). 3 Hours.**

This course provides an introduction to the international relations of two major East Asian states, China and Japan. Key topics include: China and Japan's interaction with the world political and economic systems; domestic sources of international behavior and major dimensions of foreign policy in the 1980s and 1990s.

**PLSC 4833. International Political Economy (Fa). 3 Hours.**

This course provides an analysis of the interaction between politics and markets in the world economy. Its central objective is to illustrate how political and state actions have shaped and been shaped by the development of the global economy.

**PLSC 4843. The Middle East in World Affairs (Sp). 3 Hours.**

An analysis of geo-political and socio-economic characteristics of Middle Eastern societies and their impact on world economic and political order. Special attention to such issues as the Arab-Israeli conflict, the promotion of lasting peace in the region, impact of oil on world politics, the involvement of superpowers, rehabilitation of Palestinian refugees and the role of the United Nations.

**PLSC 4853. International Norms and Corporate Social Responsibility (Sp). 3 Hours.**

This course focuses on the interplay between international social expectations and business strategy. How norms prevail and why norms emerge will be observed from a business vantage point. Pre- or corequisite: PLSC 2003 or PLSC 2013.

**PLSC 4863. Political Psychology and International Relations (Irregular). 3 Hours.**

Examines psychological approaches to international relations and examines how these perspectives advance the study of world politics.

**PLSC 4873. Inter-American Politics (Irregular). 3 Hours.**

An analysis of the political themes, regional organization, and hemispheric relations that constitute the inter-American system, with special emphasis on conflict and cooperation in the hemispheric policies of the American republics. Prerequisite: Junior standing.

**PLSC 4883. Politics of International Law (Irregular). 3 Hours.**

This course examines the interaction between law and politics in the international system, focusing on international law.

**PLSC 4933. African American Political Ideology (Odd years, Sp). 3 Hours.**

A survey course designed to identify and examine characteristics and functions of several variants of black political ideology/thought.

This course is cross-listed with AAST 4933.

**PLSC 498V. Senior Thesis (Sp, Su, Fa). 1-6 Hour.****PLSC 499VH. Honors Essay (Sp, Su, Fa). 1-3 Hour.**

Not part of the 30 hours requirement for the major. May be repeated for up to 6 hours of degree credit.

**PLSC 5103. Human Behavior in Complex Organizations (Fa). 3 Hours.**

Review of the fundamental literature and a systematic analysis of various theories and research focusing on organization and behavior in public administration, including the discussion of organizational development, human motivation, leadership, rationality, efficiency and conflict management in public organizations. Prerequisite: Graduate standing.

**PLSC 5113. Seminar in Human Resource Management (Fa). 3 Hours.**

Intensive study of public personnel policies and practices, including legal foundations, classification and compensation plans, recruitment and selection processes, training, employment policies and morale, employee relations and organization. Prerequisite: Graduate standing.

**PLSC 5123. Public Budgeting and Finance (Fa). 3 Hours.**

Focuses on the budgeting process and governmental fiscal policy formulation, adoption, and execution. Prerequisite: Graduate standing.

**PLSC 5133. Nonprofit Management (Irregular). 3 Hours.**

This course provides an overview of the principal management functions in public and nonprofit organizations. Topics include financial management, HR development, program development. The relationships among volunteer boards of trustees, fund raising, public relations, and program personnel are analyzed, and the complex environments with service sector agencies are explored.

**PLSC 5143. Administrative Law (Sp). 3 Hours.**

A seminar which examines the constitutional and statutory basis and authority of public organizations. Special attention focuses on the nature of the rule-making and adjudicatory powers of public agencies and on executive, legislative, and judicial restraints on such activities. Also considered are the role, scope, and place of public regulatory activities. Prerequisite: Graduate standing.

**PLSC 5153. Environmental Politics and Policy (Even years, Fa). 3 Hours.**

Surveys recent patterns of environmentalism in the U.S. and explores the nature of policy making with regard to environmental and economic development issues. Several debates are presented, such as conservation vs. preservation, multiple use vs. sustainability, intergovernmental policy implementation, incentives, and free market environmentalism.

**PLSC 5163. Public Policy (Sp). 3 Hours.**

Seminar examining the study of public policy making in complex organizations. Attention given to different theories and frameworks explaining public policy making. Prerequisite: Graduate standing.

**PLSC 5173. Community Development (Irregular). 3 Hours.**

Community development encompasses the political, social, and economic issues that shape contemporary communities. The seminar examines substantive issues in community development, related theories, and techniques. A major focus of the course will be on low-income and minority neighborhoods and efforts to create more inclusive communities in the U.S. and abroad.

**PLSC 5193. Seminar in Public Administration (Fa). 3 Hours.**

Introduction to and synthesis of public administration theory, functions, history, public accountability and management concerns, economic impact of administrative decisions, current problems, and issues in the public sector. Prerequisite: Graduate standing.

**PLSC 5203. Seminar in American Political Institutions (Fa). 3 Hours.**

Research seminar dealing with selected aspects of the major governmental institutions in the United States. Prerequisite: Graduate standing.

**PLSC 5213. Seminar in American Political Behavior (Sp). 3 Hours.**

Reading seminar surveying major works on representative processes in American national politics, including political opinion, political leadership, political participation, voting behavior, political parties, and interest groups. Prerequisite: Graduate standing.

**PLSC 5233. The American Chief Executive (Odd years, Sp). 3 Hours.**

Study of the origin, background, and evolution of the Office of the President of the United States, with a review of the president's powers in the areas of politics, administration, and legislation.

**PLSC 5243. Seminar in State Politics and Policy (Even Years, Fa). 3 Hours.**

Research seminar dealing with selected aspects of state political institutions and politics such as policy diffusion, institutional professionalization, and representation. Prerequisite: Graduate standing.

**PLSC 5253. Politics of Race and Ethnicity (Irregular). 3 Hours.**

Reviews identity, political action and concepts of political activity by minority groups, focusing on contemporary political behavior, the incorporation of minority groups into the U.S. political system.

**PLSC 5343. Money and Politics (Fa). 3 Hours.**

Familiarizes students with the world of money and politics in the United States. Examines the function of money in elections, the legal aspects, and the consequences of the regulatory environment. Provides a means to gain analytic computer skills and a strong foundation for further study of political science.

**PLSC 5383. Seminar in Political Communication (Irregular). 3 Hours.**

Research seminar focusing on selected topics such as candidate imagery, diffusion of political information, or political symbolism. Prerequisite: Graduate standing. This course is cross-listed with COMM 5383.

**PLSC 5503. Comparative Political Analysis (Fa). 3 Hours.**

A selection of topics to provide the theoretical, conceptual and methodological and foundation for the analysis of contemporary political systems. Prerequisite: Graduate standing.

**PLSC 5513. Seminar in Politics of the Middle East (Irregular). 3 Hours.**

Explores the major lines of inquiry on the politics of the state and society in the context of endogenous and exogenous forces that have influenced conceptions of power, legitimacy, and identity. Prerequisite: Graduate standing.

**PLSC 5523. Topics in Politics of the Middle East (Irregular). 3 Hours.**

In-depth analysis of specific political phenomena in the contemporary Middle East. Inquiry will vary but may focus on gender, political economy, politics of inclusion and exclusion (democratization and authoritarianism), or the politics of oil. Prerequisite: Graduate standing.

**PLSC 5703. Research Design in Political Science and Public Policy (Fa). 3 Hours.**

This course is designed to introduce graduate students to fundamental research issues in the realm of applied social science while developing the ability to apply basic skills for conducting research.

**PLSC 5803. Seminar in International Politics (Fa). 3 Hours.**

Research seminar providing intensive coverage of selected topics in theories of international relations, the comparative study of foreign policy making, and international organizations. Prerequisite: Graduate standing.

**PLSC 5833. Seminar in Contemporary Problems (Fa). 3 Hours.**

Seminar with concentrated reading in selected and specialized areas of contemporary international relations. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

**PLSC 5843. International Legal Order (Fa). 3 Hours.**

Analysis of distinctive characteristics of contemporary international law. Topics include role of legal order in controlling the use of force in international relations and the impact of social and political environment on growth of international law and relations among international political systems. Prerequisite: Graduate standing.

**PLSC 590V. Directed Readings in Political Science (Sp, Su, Fa). 1-3 Hour.**

Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

**PLSC 5913. Research Methods in Political Science (Fa). 3 Hours.**

Methods relevant to research in the various fields of political science. Required of all graduate students in political science. Prerequisite: Graduate standing.

**PLSC 592V. Internship in Political Science (Sp, Su, Fa). 1-6 Hour.**

Internship in a local, state, regional, or federal agency. Paper required on a significant aspect of internship experience. Prerequisite: Graduate standing.

**PLSC 593V. Special Topics (Sp, Su, Fa). 1-3 Hour.**

Topics in political science not usually covered in other courses. Prerequisite: Graduate Standing. May be repeated for up to 3 hours of degree credit.

**PLSC 5943. Advanced Research Methods in Political Science (Fa). 3 Hours.**

Provides a firm theoretical foundation in, and an ability to apply, various multivariate statistical methods that are most commonly used for empirical analysis of politics and policy. Prerequisite: PLSC 5913 or equivalent.

**PLSC 595V. Research Problems in Political Science (Sp, Su, Fa). 1-3 Hour.**

Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

**PLSC 5983. Mixed Methods Research Design (Sp). 3 Hours.**

An advanced overview of a particular type of multi-point research design. Mixed methods research combines quantitative and qualitative research strategies in a single research project.

**PLSC 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Master's Thesis. May be repeated for degree credit.

## Poultry Science (POSC) Courses

**POSC 1002. Introduction to Careers in Poultry Science (Fa). 2 Hours.**

To introduce the student to the career opportunities in the poultry science industry. Corequisite: Lab component.

**POSC 1012. Avian Biology (Sp). 2 Hours.**

Students will be introduced to biological sciences associated with poultry. Topics will include avian origin, anatomy, physiology and behavior. Course will serve as foundation for poultry production courses. Lecture 2 hours.

**POSC 1062. Sustainable Integrated Small Animal Farming (Sp). 2 Hours.**

Practical information on small scale animal production, including practical strategies for farm planning, issues of economic and environmental sustainability, best management practices, biosecurity, disease prevention, and farm safety will be presented. This course is cross-listed with ANSC 1062.

**POSC 1123. The Animals in our Lives (Su). 3 Hours.**

Address the controversies and focus on animal welfare, environmental issues and sustainability. This course is cross-listed with ANSC 1123.

**POSC 2343. Poultry Production (Fa). 3 Hours.**

To develop a basic foundation about the practices utilized to produce broilers and turkeys. Course will highlight hatchery function and management; embryo development and hatching; chick/poultry transportation, preparation and maintenance of facilities for rearing birds, bird environment, nutrition, and health. Also to be covered are the different roles associated with live production in an integrated company. Corequisite: Lab component.

**POSC 2353. Poultry Breeder Management (Sp). 3 Hours.**

Students will be introduced to the management practices used in production of young and adult chickens, turkeys, and other poultry with special emphasis on broiler, breeder, and market egg production. Lecture 2 hours, laboratory 3 hours per week. Corequisite: Lab component. Pre- or Corequisite: POSC 1012.

**POSC 3013. Exotic Companion Birds (Odd years, Fa). 3 Hours.**

Topics include basic care, health, breeding, bird evolution, anatomy, and nutritional management of commonly kept exotic companion birds, including parrots, cockatoos, macaws, finches, canaries, and pigeons. Discussion will include housing and care for individual pet birds and large scale breeding and production. Lecture/discussion 3 hours per week. Prerequisite: BIOL 1543.

**POSC 3032. Animal Physiology I (Fa). 2 Hours.**

Fundamental aspects of neural/muscle/bone tissues and the cardiovascular system. The normal structure and functions of these systems will be emphasized. Lecture 2 hours per week. Prerequisite: BIOL 1543 and CHEM 1123 or CHEM 1073. This course is cross-listed with ANSC 3032.

**POSC 3042. Animal Physiology II (Sp). 2 Hours.**

Fundamental aspects of renal, respiratory, digestive, and endocrine physiology will be covered. The normal structure and function of these systems will be emphasized. Lecture 2 hours per week. Prerequisite: BIOL 1543 and CHEM 1123 or CHEM 1073. This course is cross-listed with ANSC 3042.

**POSC 3123. Principles of Genetics (Fa). 3 Hours.**

Fundamentals of heredity, with special emphasis on the improvement of farm animals. Lecture 3 hours per week. Prerequisite: BIOL 1543 and MATH 1203 or higher.

This course is cross-listed with ANSC 3123.

**POSC 3223. Poultry Diseases (Fa). 3 Hours.**

Common diseases affecting poultry reared under commercial conditions will be covered including diagnosis, therapy and prevention. Immunity, sanitation practices, and chemoprophylaxis will also be covered. Lecture 3 hours per week with some demonstrations, slides and videotapes. Prerequisite: BIOL 2013 and BIOL 2011L and junior standing.

**POSC 3381. Poultry Judging and Selection (Sp, Fa). 1 Hour.**

Practice in production judging and flock selection. Laboratory 3 hours per week. May be repeated for up to 4 hours of degree credit.

**POSC 3513. Current Approaches in Agricultural Laboratory Research (Even years, Sp). 3 Hours.**

A laboratory course to introduce students to current laboratory research techniques used in agricultural and life sciences. Hands-on laboratory exercises will emphasize current cellular and molecular research techniques, laboratory notebook keeping, data interpretation, and presentation of results. Prerequisite: BIOL 1543.

This course is cross-listed with POSC 3513H.

**POSC 3513H. Current Approaches in Agricultural Laboratory Research (Even years, Sp). 3 Hours.**

A laboratory course to introduce students to current laboratory research techniques used in agricultural and life sciences. Hands-on laboratory exercises will emphasize current cellular and molecular research techniques, laboratory notebook keeping, data interpretation, and presentation of results. Prerequisite: BIOL 1543.

This course is cross-listed with POSC 3513.

**POSC 3554. Avian Anatomy (Sp). 4 Hours.**

Detailed coverage of the external and internal anatomy of poultry, including formation and development of the egg and embryo. Lecture 3 hours, laboratory 2 hours per week. Corequisite: Lab component. Prerequisite: BIOL 1543.

**POSC 400V. Special Problems (Sp, Su, Fa). 1-9 Hour.**

Special problems in the poultry sciences for advanced students. May be repeated for up to 9 hours of degree credit.

**POSC 401V. Internship in Poultry Science (Sp, Su, Fa). 1-6 Hour.**

Supervised work experience with private or government organizations to introduce students to professional areas of work in poultry science. Prerequisite: Junior standing. May be repeated for up to 8 hours of degree credit.

**POSC 4033. Statistical Process Control in the Food Industry (Irregular). 3 Hours.**

Analysis of processing data related to compliance with regulatory limits, quality & safety limits and internal & external customer specifications. Emphasizes statistical process control chart development, including understanding data and chart selection, calculating statistical limits, and interpreting process performance. Prerequisite: Instructor consent.

**POSC 410V. Special Topics in Poultry Science (Irregular). 1-4 Hour.**

Topics not covered in other courses or for a more intensive study of specific topics in poultry science. May be repeated for degree credit.

**POSC 4123. Legal Issues in Animal Agriculture (Odd years, Sp). 3 Hours.**

An issues-oriented course focusing on the legal issues involved in the production of poultry, swine and livestock. Emphasis will center on the laws, regulations and policy arguments involved in animal confinement, antibiotic use, humane slaughter and veterinary medicine, along with other related issues. The wide range of regulation from local to state to federal, depending on the issue will be studied and discussed. This course is cross-listed with AGECE 4123, ANSC 4123.

**POSC 4213. Integrated Poultry Management Systems (Fa). 3 Hours.**

Major managerial systems in the integrated commercial poultry industry. Development of an understanding of the basic decision making processes of poultry companies and the factors influencing those decisions. Prerequisite: POSC 2353 and AGECE 1103 and AGECE 2303.

**POSC 4233. Value Added Muscle Foods (Odd years, Sp). 3 Hours.**

An intense study of muscle structure and how it relates to the development of further processed meat products. Muscle ultrastructure, protein functionality, product development, and quality analysis will be covered. In class hands on activities will also be included to allow students to obtain experience of producing processed meat products. Prerequisite: POSC 4314.

**POSC 4314. Egg and Meat Technology (Fa). 4 Hours.**

Study of the science and practice of processing poultry meat and egg products; examination of the physical, chemical, functional and microbiological characteristics of value added poultry products; factors affecting consumer acceptance and marketing of poultry products and the efficiency of production. Corequisite: Lab component. Prerequisite: (CHEM 1123 and CHEM 1121L) or (CHEM 1073 and CHEM 1071L) and BIOL 1543 and BIOL 1541L.

**POSC 4333. Poultry Breeding (Odd years, Fa). 3 Hours.**

Application of new developments in poultry breeding for efficient egg and meat production. Not intended for students interested in a career in veterinary sciences. Lecture 3 hours per week. Prerequisite: MATH 1203 or higher and junior standing.

**POSC 4343. Poultry Nutrition (Sp). 3 Hours.**

Principles of nutrition as applied to the formulation of practical chicken and turkey rations. Lecture 3 hours per week. Prerequisite: CHEM 2613 or CHEM 3603 and junior standing.

**POSC 4801. Seminar: Research Topics (Odd years, Sp). 1 Hour.**

Required by all poultry science majors. Prerequisite: Junior or Senior standing and COMM 1313.

**POSC 4811. Seminar: Professionalism (Odd years, Fa). 1 Hour.**

Addressing issues associated with preparation for finding and retaining your first job in the poultry industry. Lecture 1 hour per week. Prerequisite: Junior or Senior standing.

**POSC 4821. Seminar: Problem Solving (Even years, Sp). 1 Hour.**

Real world problem solving of poultry production systems. Lecture 1 hour per week. Prerequisite: Junior/ senior standing.

**POSC 4831. Seminar: Processing Regulations (Even years, Fa). 1 Hour.**

Processing plant procedures and regulations with an emphasis on problem solving. Lecture 1 hour per week. Prerequisite: Junior or senior standing.

**POSC 4923. Brain and Behavior (Fa). 3 Hours.**

Covers cellular through neural systems, major brain functions and comparative neuroanatomy. Topics include ion channels, membrane and action potentials, synaptic integration, neurotransmitters, major brain regions of mammals and birds, sensory and autonomic nervous systems, neuroendocrine system, and control by the brain of critical functions and behavior. Lecture 3 hours per week. Prerequisite: (ANSC 3032 or POSC 3032) or (ANSC 3042 or POSC 3042), or PSYC 2003, or BIOL 2213, or BIOL 2443, or BIOL 2533.

This course is cross-listed with ANSC 4923.

**POSC 500V. Special Problems (Sp, Su, Fa). 1-6 Hour.**

Work in special problems of poultry industry. Prerequisite: Graduate standing.

**POSC 510V. Special Topics in Poultry Sciences (Irregular). 1-4 Hour.**

Topics not covered in other courses or a more intensive study of specific topics in poultry science. Prerequisite: Graduate standing. May be repeated for degree credit.

**POSC 5113. Food Toxicology and Contaminants (Irregular). 3 Hours.**

During this course, the student will learn basic concepts of food toxicology, study the different physiological processes involved in food borne intoxications, and learn about potential health problems associated with exposure to these compounds.

Prerequisite: Graduate study.

**POSC 5123. Advanced Animal Genetics (Even years, Fa). 3 Hours.**

Specialized study of animal genetics. Lecture 3 hours per week. Prerequisite: POSC 3123 or ANSC 3123.

This course is cross-listed with ANSC 5123.

**POSC 5143. Biochemical Nutrition (Even years, Fa). 3 Hours.**

Interrelationship of nutrition and physiological chemistry; structure and metabolism of physiological significant carbohydrates, lipids, and proteins; integration of metabolism with provision of tissue fuels; specie differences in regulatory control of tissue and whole body metabolism of nutrients. Prerequisite: CHEM 3813.

This course is cross-listed with ANSC 5143.

**POSC 5152. Protein and Amino Acid Nutrition (Even years, Sp). 2 Hours.**

Students will be introduced to the basic processes of protein digestion, amino acid absorption, transport, metabolism, and utilization along with how biochemical function of proteins and their dynamic state affect nutritional status for animals and man. Prerequisite: CHEM 3813.

This course is cross-listed with ANSC 5152.

**POSC 5233. Value Added Muscle Foods (Even years, Sp). 3 Hours.**

An intense study of muscle structure and how it relates to the development of further processed meat products. Muscle ultrastructure, protein functionality, product development, and quality analysis will be covered. In class hands on activities will also be included to allow students to obtain experience of producing processed meat products.

**POSC 5313. Domestic Animal Bacteriology (Fa). 3 Hours.**

A study of bacteria pathogenic for domestic animals. Lecture 3 hours per week.

**POSC 5343. Advanced Immunology (Sp). 3 Hours.**

Aspects of innate, cell-mediated, and humoral immunity in mammalian and avian species. Molecular mechanisms underlying the function of the immune system are emphasized. A course in Basic Immunology prior to enrollment in Advanced Immunology is recommended but not required. Lecture 3 hours per week.

This course is cross-listed with BIOL 5343.

**POSC 5352L. Immunology in the Laboratory (Sp). 2 Hours.**

Laboratory course on immune-diagnostic laboratory techniques and uses of antibodies as a research tool. Included are cell isolation and characterization procedures, immunochemistry, flow cytometry, ELISA and cell culture assay systems. Laboratory 6 hours per week. Prerequisite: POSC 5343 or BIOL 5343 or BIOL 4713.

This course is cross-listed with BIOL 5352L.

**POSC 5742. Advanced Poultry Diseases (Odd years, Sp). 2 Hours.**

An in-depth coverage of the most important diseases of poultry with a focus on understanding mechanisms of pathogenesis, diagnostic techniques and principles of prevention. Lecture/discussion 2 hours per week. Prerequisite: POSC 3223.

**POSC 5743L. Advanced Analytical Methods in Animal Sciences Laboratory (Fa). 3 Hours.**

Introduction into theory and application of current advanced analytical techniques used in animal research. Two 3-hour laboratory periods per week.

This course is cross-listed with ANSC 5743L.

**POSC 5873. Molecular Analysis of Foodborne Pathogens (Fa). 3 Hours.**

Course topics will include molecular detection and identification of foodborne pathogens, the molecular response of foodborne pathogens to their environments, functional genomic approaches, and analysis of complex microbial communities. Lecture/discussion 3 hours per week.

**POSC 5901. Graduate Seminar (Sp, Fa). 1 Hour.**

Critical review of the current scientific literature pertaining to the field of poultry science. Oral reports. Recitation 1 hour per week. Prerequisite: Senior standing.

**POSC 5923. Brain and Behavior (Fa). 3 Hours.**

Covers cellular through neural systems, major brain functions and comparative neuroanatomy. Topics include ion channels, membrane and action potentials, synaptic integration, neurotransmitters, major brain regions of mammals and birds, sensory and autonomic nervous systems, neuroendocrine system, and control by the brain of critical functions and behavior. Lecture 3 hours per week. Prerequisite: ANSC 3032 or POSC 3032 and ANSC 3042 or POSC 3042, or PSYC 2003, or BIOL 2213, or BIOL 2443, or BIOL 2533.

**POSC 5932. Cardiovascular Physiology of Domestic Animals (Fa). 2 Hours.**

Cardiovascular physiology, including mechanisms of heart function and excitation, and blood vessel mechanisms associated with the circulatory system in domestic animals and poultry. Lecture 3 hours; drill 1 hour per week (for second 8 weeks of semester). Pre- or Corequisite: CHEM 3813. Corequisite: Drill component.

Prerequisite: ANSC 3032 or POSC 3032 and ANSC 3042 or POSC 3042.

This course is cross-listed with ANSC 5932.

**POSC 5942. Endocrine Physiology of Domestic Animals (Fa). 2 Hours.**

Endocrine physiology, including mechanisms of hormone secretion, function, and regulation. Mechanisms associated with the endocrine system will be discussed for domestic animals and poultry. Lecture 3 hours; drill 1 hour per week (for second 8 weeks of semester). Pre- or Corequisite: CHEM 3813. Corequisite: Drill component.

Prerequisite: ANSC 3032 or POSC 3032 and ANSC 3052 or POSC 3042.

This course is cross-listed with ANSC 5942.

**POSC 5952. Respiratory Physiology of Domestic Animals (Sp). 2 Hours.**

Respiratory physiology, including mechanisms of lung function and gas exchange. Mechanisms associated with the interaction of the respiratory system with other bodily systems in domestic animals and poultry will be discussed. Lecture 3 hours; drill 1 hour per week for first 8 weeks of semester. Pre- or Corequisite: CHEM 3813. Corequisite: Drill component. Prerequisite: ANSC 3032 or POSC 3032 and ANSC 3042 or POSC 3042.

This course is cross-listed with ANSC 5952.

**POSC 5962. Gastrointestinal/Digestive Physiology of Domestic Animals (Fa). 2 Hours.**

Gastrointestinal and hepatic physiology, including mechanisms of digestion, absorption of nutrients with emphasis on cellular control mechanisms in domestic animals and poultry. Lecture 3 hours; drill 1 hour per week (for second 8 weeks of semester). Pre- or Corequisite: CHEM 3813. Corequisite: Drill component.

Prerequisite: ANSC 3032 or POSC 3032 and ANSC 3042 or POSC 3042.

This course is cross-listed with ANSC 5962.

**POSC 5972. Renal Physiology of Domestic Animals (Sp). 2 Hours.**

Renal physiology, including mechanisms of renal clearance with emphasis on cellular control mechanisms in domestic animals and poultry. Lecture 3 hours; drill 1 hour per week (for second 8 weeks of semester). Pre- or Corequisite: CHEM 3813. Corequisite: Drill component. Prerequisite: ANSC 3032 or POSC 3032 and ANSC 3042 or POSC 3042.

This course is cross-listed with ANSC 5972.

**POSC 600V. Thesis (Sp, Su, Fa). 1-6 Hour.**

Thesis. Prerequisite: Graduate standing. May be repeated for degree credit.

**POSC 6123. Advanced Food Animal Wellbeing (Sp). 3 Hours.**

Advances in fundamentals of animal welfare including animal health, animal handling, food safety and productivity. Prerequisite: ANSC 2213 or BIOL 4833 or instructor consent.

This course is cross-listed with ANSC 6123.

**POSC 6343. Vitamin Nutrition in Domestic Animals (Even years, Sp). 3 Hours.**

The vitamins required by domestic animals with emphasis upon their role in animal nutrition, physiological functions, and consequences of failure to meet the requirement of the animal. Lecture 3 hours per week. Prerequisite: (ANSC 3143 or POSC 4343) and CHEM 3813.

This course is cross-listed with ANSC 6343.

**POSC 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Doctoral Dissertation. Prerequisite: Graduate standing. May be repeated for degree credit.

## Psychology (PSYC)

### Courses

**PSYC 2003. General Psychology (ACTS Equivalency = PSYC 1103) (Sp, Su, Fa). 3 Hours.**

An introduction to the field of Psychology, including the investigation of the biological bases of behavior; learning and cognitive processes; developmental and social psychology; and personality, psychopathology, and the treatment of psychological disorders. Students will be expected to complete a research requirement.

**PSYC 2003H. Honors General Psychology (Sp, Fa). 3 Hours.**

An introduction to the field of Psychology, including the investigation of the biological bases of behavior; learning and cognitive processes; developmental and social psychology; and personality, psychopathology, and the treatment of psychological disorders. Students will be expected to complete a research requirement.

This course is equivalent to PSYC 2003.

**PSYC 2013. Introduction to Statistics for Psychologists (Sp, Su, Fa). 3 Hours.**

Introduction to the descriptive and inferential statistics commonly used by psychologists. A grade of C or better in PSYC 2013 is required as a prerequisite for PSYC 3073. Corequisite: Drill component. Prerequisite: PSYC 2003 and MATH 2043 or MATH 2053 or MATH 2554, with a grade of C or better, and a Psychology major.

**PSYC 206V. Directed Readings (Sp, Su, Fa). 1-4 Hour.**

For undergraduate majors in psychology. Prerequisite: Six hours of psychology; Instructor's permission. May be repeated for up to 6 hours of degree credit.

**PSYC 207V. Laboratory Experience (Sp, Su, Fa). 1-4 Hour.**

Laboratory experience in psychology obtained by working as part of a faculty member's research team. Prerequisite: PSYC 2003 and Instructor's permission. May be repeated for up to 6 hours of degree credit.

**PSYC 3013. Social Psychology (Sp, Fa). 3 Hours.**

Theories and representative research in social psychology, emphasizing the influence of the social world on human behavior. Introduction to the problems, theories, and experiments of social psychology. Prerequisite: PSYC 2003.

**PSYC 3023. Abnormal Psychology (Sp, Fa). 3 Hours.**

Theories and representative research about the causes and treatment of the major forms of abnormal behavior. Prerequisite: PSYC 2003.

**PSYC 3073. Research Methods (Sp, Fa). 3 Hours.**

Training in execution and interpretation of experiments using the classical experimental designs. Limited enrollment. Prerequisite: PSYC 2013 and (MATH 2043, or MATH 2053, or MATH 2554) with a grade of "C" or better and a psychology major.

**PSYC 3093. Developmental Psychology (ACTS Equivalency = PSYC 2103) (Sp, Fa). 3 Hours.**

Theories and representative research in the psychological factors influencing development, including both hereditary and environmental influences, from conception through adolescence. Prerequisite: PSYC 2003.

**PSYC 3103. Cognitive Psychology (Sp). 3 Hours.**

Introduction to theories and research in cognition including memory, language, and problem-solving. Prerequisite: PSYC 2003.

**PSYC 328V. Advanced Research (Sp, Fa). 1-3 Hour.**

A lecture/laboratory course covering research in a specialized area of psychology. Provides experience with design, conduct, analysis, and presentation of research projects related to class topics. Successful completion of the class, including a formal paper in APA style, with a grade of C or better will fulfill the senior writing requirement. Prerequisite: PSYC 3073 with a grade of C or better.

**PSYC 3923H. Honors Colloquium (Irregular). 3 Hours.**

Treats a special topic or issue, offered as part of the honors program. May be repeated when the content is changed. Prerequisite: honors candidacy (not restricted to candidacy in psychology). May be repeated for degree credit.

**PSYC 399VH. Honors Course (Sp, Su, Fa). 1-6 Hour.**

Prerequisite: Junior standing and instructor's permission. May be repeated for up to 12 hours of degree credit.

**PSYC 4033. Educational Psychology (Irregular). 3 Hours.**

Psychological theories and concepts applied to the educational process. Investigates the learner and instructional variables in a wide range of educational settings. Prerequisite: Six hours of psychology, not including PSYC 2013.

**PSYC 4053. Psychological Tests (Irregular). 3 Hours.**

Nature and theory of individual and group tests of intelligence, personality, interests, and attitudes. Prerequisite: Nine hours of psychology, including a C or better in PSYC 2013.

**PSYC 4063. Psychology of Personality (Irregular). 3 Hours.**

Theories and representative research concerning the development and nature of the normal personality. Prerequisite: Six hours of psychology, not including PSYC 2013.

**PSYC 4073. Psychology of Learning (Sp). 3 Hours.**

Theories and representative research on basic principles of learning and memory in both animals and humans. Prerequisite: Six hours of psychology, not including PSYC 2013.

**PSYC 409V. Psychology Seminar (Irregular). 1-3 Hour.**

Provides intensive coverage of specialized psychological topics. Prerequisite: Six hours of psychology, not including PSYC 2013. May be repeated for up to 18 hours of degree credit.

**PSYC 4123. Perception (Irregular). 3 Hours.**

Theories and representative research in the areas of sensation and perception. Prerequisite: Six hours of psychology, not including PSYC 2013.

**PSYC 4143. History and Systems of Psychology (Irregular). 3 Hours.**

Examination of the concepts, methods, and systems which have contributed to the development of modern psychology. Prerequisite: Fifteen hours of psychology and senior standing.

**PSYC 4183. Behavioral Neuroscience (Fa). 3 Hours.**

Examination of the biological basis of behavior. Surveys the anatomy, physiology, and pharmacology of the mammalian brain and examines brain mechanisms underlying a wide range of behaviors and cognitive processes. Prerequisite: Six hours of psychology, not including PSYC 2013.

**PSYC 4193. Comparative Psychology (Sp). 3 Hours.**

Analysis of animal behavior from an evolutionary perspective, with emphasis on the role of the environment and interactions with other animals in shaping the evolution of behavior within a species, and the evolution of differences in behavior between species. Prerequisite: Six hours of psychology, not including PSYC 2013.

**PSYC 4283. Advanced Seminar (Sp, Fa). 3 Hours.**

A seminar/discussion class covering research in specialized areas of psychology. Students will read original sources and present their ideas and conclusions several formats. Successful completion of the class, including a formal paper in APA style, with a grade of C or better will fulfill the senior writing requirement. Prerequisite: Eighteen hours of psychology including a grade of at least a C in PSYC 3073; senior standing. May be repeated for up to 6 hours of degree credit.

**PSYC 5013. Advanced Developmental Psychology (Sp). 3 Hours.**

Critical examination of the research relevant to the psychological factors influencing the growth processes of the individual from birth to maturity.

**PSYC 5023. Neuropsychological Assessment (Irregular). 3 Hours.**

Introduction to the principles, techniques, and tools of assessment in clinical neuropsychology. Includes training in the interpretation, integration, and reporting of results. Prerequisite: PSYC 5043 and enrollment in the Psychology graduate program.

**PSYC 5033. Psychopathology Theory & Assessment (Fa). 3 Hours.**

Psychological and somatic factors contributing to pathological behavior. Interrelations of these factors will be analyzed in terms of how they lead to differential abnormal states. Includes guidelines for using structured interviews in the diagnosis and clinical assessment of major psychological disorders. Prerequisite: PSYC 3023 and enrollment in the Graduate Program in Psychology, or instructor consent.

**PSYC 5043. Assessment of Intellectual and Cognitive Abilities (Fa). 3 Hours.**

Training in the theory, administration and interpretation of individual tests of intelligence and mental ability. Prerequisite: PSYC 4053 and enrollment in the Psychology Graduate Program.

**PSYC 5063. Advanced Social Psychology (Sp). 3 Hours.**

Theory, methodology, and contemporary research in the major areas of social psychology. Topics include attitude theory and measurement, group processes, social and cultural factors.

**PSYC 5073. Introduction to Clinical Practice: Core Skills and Ethical Guidelines (Sp). 3 Hours.**

An introduction to clinical practice focusing on a) interview methods and techniques and b) ethical principles and guidelines. Includes an introduction to clinic policies and procedures. Prerequisite: Enrollment in the Psychology graduate program.

**PSYC 5080. Observational Practicum (Sp, Su, Fa). 0 Hours.**

Observation of senior therapists in the provision of psychodiagnostic and psychotherapeutic techniques. Pre- or Corequisite: Psychology Ph.D. students only. May be repeated for up to 0 hours of degree credit.

**PSYC 5113. Theories of Learning (Fa). 3 Hours.**

Major concepts in each of the important theories of learning.

**PSYC 5123. Cognitive Psychology (Even years, Sp). 3 Hours.**

Contemporary theories and research on human information processing including topics such as memory, language, thinking, and problem solving.

**PSYC 5133. Inferential Statistics for Psychology (Fa). 3 Hours.**

Inferential statistics, including representative parametric tests of significance. Special emphasis on analysis of variance, covariance, and component variance estimators as applied to psychological research. Prerequisite: PSYC 2013.

**PSYC 5143. Advanced Descriptive Statistics for Psychology (Sp). 3 Hours.**

Special correlation techniques followed by a survey of representative nonparametric tests of significance. Major emphasis on advanced analysis of variance theory and designs. Prerequisite: PSYC 5133.

**PSYC 5153. Advanced History and Systems of Psychology (Fa). 3 Hours.**

Advanced examination of the concepts, methods, and systems which have contributed to the development of modern psychology.

**PSYC 5163. Personality: Theory & Assessment (Sp). 3 Hours.**

An introduction to empirically based theories of personality and personality disorders with an emphasis on standardized instruments in the assessment of normative and pathological personality. Includes training in the interpretation, integration, and reporting of results. Pre- or Corequisite: PSYC 5043. Prerequisite: Enrollment in the Psychology graduate program or instructor consent.

**PSYC 523V. Research Practicum (Sp, Fa). 1-3 Hour.**

Presentation, evaluation, and discussion of on-going research proposals. Required of all experimental graduate students in the first 2 years of their program.

**PSYC 5313. Introduction to Clinical Science: Research Design and Ethical Guidelines (Fa). 3 Hours.**

Provides a) guidelines for designing and conducting empirical research in clinical psychology, b) ethical principles that regulate clinical research, and c) supervised opportunities to develop a clinical research proposal. Prerequisite: Enrollment in the Psychology graduate program.

**PSYC 5463. Descriptive Linguistics (Irregular). 3 Hours.**

This course aims to approach a scientific study of language with primary emphasis on modern linguistic theory and analysis. Topics include phonology, morphology, syntax, semantics, language acquisition, and historical development of world languages.

This course is cross-listed with WLLC 5463, ANTH 5473, ENGL 5463.

**PSYC 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Master's Thesis. May be repeated for degree credit.

**PSYC 602V. Seminar: Teaching Psychology (Sp, Fa). 1-3 Hour.**

Survey of the literature on teaching of psychology in college. Includes: planning the course, method, examining and advising students. Prerequisite: Teaching assistant.

**PSYC 607V. Clinical Practicum III (Sp, Su, Fa). 1-3 Hour.**

Provides supervised experience in the application of the more complex and lesser known psychodiagnostic techniques and training and experience in psychotherapeutic techniques with the more severe functional disorders, with special topics in these domains emphasized across sections. Prerequisite: PSYC 5073; Enrollment in the Psychology graduate program. May be repeated for degree credit.

**PSYC 609V. Clinical Graduate Seminar (Sp, Fa). 1-3 Hour.**

Provides intensive coverage of specialized clinical topics. Open to all graduate students. May be repeated for up to 9 hours of degree credit.

**PSYC 611V. Individual Research (Sp, Su, Fa). 1-18 Hour.**

May be repeated for up to 18 hours of degree credit.

**PSYC 6133. Advanced Behavioral Neuroscience (Fa). 3 Hours.**

Examination of the biological basis of behavior, with emphasis on underlying neural mechanisms.

**PSYC 6163. Psychotherapy (Fa). 3 Hours.**

A conceptual overview of psychotherapy, with emphasis on a) common mechanisms, and b) cognitive, affective, and interpersonal approaches. Prerequisite: PSYC 5033.

**PSYC 6213. Psychotherapy Outcomes (Sp). 3 Hours.**

Provides a critical evaluation of theory and research on empirically supported programs and interventions for major psychological disorders. Prerequisite: Enrollment in the Psychology graduate program.

**PSYC 6323. Seminar in Developmental Psychology (Odd years, Fa). 3 Hours.**

Discussion of selected topics in the area of human development. Emphasis will be on a review of current theory and empirical research. Topics selected for discussion could range from early development (child psychology), to later development (psychology of adulthood and aging-gerontology), to current attempts to integrate the field (life-span developmental psychology).

**PSYC 6343. Seminar in Quantitative Methods (Irregular). 3 Hours.**

Discussion of selected mathematical approaches to theorizing and research in psychology. Emphasis will be on generalization of a given approach across several content areas of psychology. Hence, while each area must be treated in reasonable depth, current thinking and research spanning more than one content area will be stressed.

**PSYC 6353. Seminar in Learning/Memory/Cognition (Odd years, Sp). 3 Hours.**

Discussion of selected topics in learning, memory, or cognition. Emphasis on current theory and empirical research. Topics selected for discussion may be in the areas of learning, memory, problem solving, or language.

**PSYC 6373. Seminar in Personality and Social Psychology (Fa). 3 Hours.**

Discussion of selected topics in social psychology and personality. Current theoretical positions and recent research findings are emphasized. Topics selected for discussion will be in areas of intrapersonal processes, interpersonal processes, group processes or any of various areas of personality.

**PSYC 6413. Seminar in Physiological Psychology (Odd years, Sp). 3 Hours.**

Discussion of selected topics in physiological psychology. Emphasis will be on a review of current theory and empirical research. Each offering of the seminar will examine the biological basis of a specific aspect of behavior, utilizing both animal and human data.

**PSYC 698V. Field Work (Sp, Su, Fa). 1-3 Hour.**

Provides academic credit for field work in multidisciplinary setting, involving supervised experiences in assessment and psychotherapy. May be repeated for degree credit.

**PSYC 699V. Clinical Psychology Internship (Sp, Su, Fa). 1-3 Hour.**

Supervised experience in a multidisciplinary setting of assessment and psychotherapy. May be repeated for degree credit.

**PSYC 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Doctoral Dissertation. Prerequisite: Candidacy. May be repeated for degree credit.

## Public Administration (PADM)

### Courses

**PADM 5803. Quantitative Methods Analysis (Fa). 3 Hours.**

Data analysis techniques, including descriptive and inferential statistics and packaged computer programs. Prerequisite: Graduate standing.

**PADM 5813. Methods in Public Management Information (Sp). 3 Hours.**

Nature and use of public information systems. Includes: basic understanding of hardware, applications, network, and communication technologies, data and information; their use for data analysis and management, and decision support; discussion of technologies' societal impact, and security and ethical considerations. Prerequisite: Graduate standing.

**PADM 5823. Grant Writing for the Social Sciences (Irregular). 3 Hours.**

This course will teach students the fundamentals of obtaining grants from local, state and federal agencies.

**PADM 5833. Urban Planning (Fa). 3 Hours.**

Reviews the many forms, functions, and purposes of American cities. Covers basic planning theories, surveys the various sub-fields of planning, discusses trends in the planning field, and utilizes computer simulations. This course is cross-listed with PLSC 4103.

**PADM 584V. Special Topics in Public Administration (Sp). 1-3 Hour.**

Topic varies. Prerequisite: PLSC 5193. May be repeated for up to 6 hours of degree credit.

**PADM 5853. Performance Measurement in the Public and Nonprofit Sectors (Su). 3 Hours.**

Provides a hands-on approach for measuring organizational performance and using performance information of decision making. Addresses components and key issues of performance measurement, such as steps in the measurement process, methods of data gathering, and analysis. Prerequisite: PLSC 5193.

**PADM 5863. Issues in Public and Nonprofit Management (Sp). 3 Hours.**

Explores current developments and themes in the theory and practice of public and nonprofit management. Covers a range of contemporary issues in the field, such as managing collaborative networks, e-government, and managing for results. Emerging trends are intensively discussed at the juncture of theory and practice.

**PADM 587V. Professional Development (Sp, Su, Fa). 1-6 Hour.**

Encompasses internships, professional projects if individual is employed full-time and not eligible for an internship, conference and workshop participation, and other activities conducive to the students development as a public service professional.

**PADM 588V. Directed Readings (Sp, Su, Fa). 1-3 Hour.**

Prerequisite: Graduate standing.

**PADM 589V. Independent Research (Sp, Su, Fa). 1-3 Hour.**

Prerequisite: Graduate standing.

**PADM 5903. Risk and Public Policy (Sp). 3 Hours.**

Examines how concepts of risk serve to justify and shape public policies and risk management practices.

**PADM 5913. Policy Analysis: Theory and Practice (Fa). 3 Hours.**

Provides a firm theoretical foundation in, and an ability to apply, the general instruments necessary for professional practice of policy analysis.

## Public Health (PBHL)

### Courses

**PBHL 1103. Personal Health and Safety (Sp, Fa). 3 Hours.**

Health and safety problems with emphasis on the promotion of individual health and safety.

**PBHL 1103H. Honors Personal Health and Safety (Sp, Fa). 3 Hours.**

Health and safety problems with emphasis on the promotion of individual health and safety. Prerequisite: Honors standing. This course is equivalent to PBHL 1103.

**PBHL 1203. Prevention of Drug Abuse (Fa). 3 Hours.**

Provides an overview of drugs of use and abuse in society. Also assists the student in evaluating drug abuse prevention approaches for public, private, or community settings.

**PBHL 1303. Introduction to Human Sexuality (Sp, Fa). 3 Hours.**

An examination of human sexuality with a critical analysis of male and female attitudes and values affecting self-understanding and gender identity.

**PBHL 1303H. Honors Introduction to Human Sexuality (Sp, Fa). 3 Hours.**

An examination of human sexuality with a critical analysis of male and female attitudes and values affecting self-understanding and gender identity. This course is equivalent to PBHL 1303.

**PBHL 2101. Special Topics (Sp, Fa). 1 Hour.**

Examination and application of health promotion concepts based on individualized health hazard appraisal. (Not to replace content courses leading to teacher certification in health education). May be repeated for up to 5 hours of degree credit.

**PBHL 2613. Foundations of Public Health (Sp). 3 Hours.**

Introduction to the principles and practices of public health education, inclusive of an examination of the philosophy, purpose, history, organization, functions, impact and results of public health practice.



**PBHL 2663. Terminology for the Health Professions (Sp). 3 Hours.**

Emphasis is on word roots and combined forms of words describing various facets of health and disease. Descriptive definitions with application of practical significance included for the health professional.

**PBHL 310V. Seminar in Public Health (Irregular). 1-3 Hour.**

Synthesis and critical analysis of current literature in the area of community health promotion. Prerequisite: PBHL majors only. May be repeated for up to 12 hours of degree credit.

**PBHL 3202. Health Care and Public Health Policy (Sp). 2 Hours.**

This course provides an introduction to health care services, inclusive of the characteristics and structure of the U.S. health care delivery system and comparison to other health systems. Aspects of public health policy, laws, ethics, and economics will be examined. Upon completion of the course, students are expected to demonstrate an understanding of the key elements of the health care industry as it pertains to medical care and public health, including an understanding of the roles of health care providers, public and private payers, the role of government, and challenges facing health care systems. Pre- or Corequisite: PBHL 1103 and PBHL 2613.

**PBHL 3202H. Honors Health Care and Public Health Policy (Sp). 2 Hours.**

This course provides an introduction to health care services, inclusive of the characteristics and structure of the U.S. health care delivery system and comparison to other health systems. Aspects of public health policy, laws, ethics, and economics will be examined. Upon completion of the course, students are expected to demonstrate an understanding of the key elements of the health care industry as it pertains to medical care and public health, including an understanding of the roles of health care providers, public and private payers, the role of government, and challenges facing health care systems. Pre- or Corequisite: PBHL 1103 and PBHL 2613 and honors standing.

This course is equivalent to PBHL 3202.

**PBHL 333V. Research in Public Health (Sp, Fa). 1-3 Hour.**

This course is intended for undergraduate students who wish to gain research experience under the direction of a faculty mentor. Students will work independently and collaborate with faculty member(s) and fellow students to conduct research in a specified area of interest. The purpose of the course is for the student to develop knowledge in her/his own domain, strengthen her/his research skills, and work collaboratively on research projects. The directed research course places more emphasis on the students' role as a researcher in an academic setting. Prerequisite: Instructor consent. May be repeated for up to 9 hours of degree credit.

**PBHL 333VH. Honors Research in Public Health (Sp, Fa). 1-3 Hour.**

This course is intended for undergraduate students who wish to gain research experience under the direction of a faculty mentor. Students will work independently and collaborate with faculty member(s) and fellow students to conduct research in a specified area of interest. The purpose of the course is for the student to develop knowledge in her/his own domain, strengthen her/his research skills, and work collaboratively on research projects. The directed research course places more emphasis on the students' role as a researcher in an academic setting. Prerequisite: Instructor consent. May be repeated for up to 9 hours of degree credit.

**PBHL 3633. First Responder-First Aid (Irregular). 3 Hours.**

Prepares persons to administer cardiopulmonary resuscitation and emergency aid to victims of serious bleeding, poisoning, shock, fracture, and other forms of injury until emergency medical services personnel arrive at the scene.

**PBHL 3643. Public Health Program Planning and Evaluation (Fa). 3 Hours.**

Emphasis on community analysis; defining and verifying community health problems; establishing program goals; defining and assessing health behaviors; formulating educational goals, objectives, methods, and activities; promoting programs; and designing program evaluation.

**PBHL 3663. Principles and Practice of Mental Health Promotion (Irregular). 3 Hours.**

Understanding and practicing the principles of sound mental health are key elements in achieving high level wellness. This course encourages students' exploration of the mental dimensions of holistic health and presents strategies to achieve a more healthful balance in life.

**PBHL 3683. Health Care Consumerism (Irregular). 3 Hours.**

Study of products and services provided by the health care delivery system; an analysis of those components lacking scientific credibility, yet promoted for the maintenance or restoration of health status.

**PBHL 3683H. Honors Health Care Consumerism (Even years, Sp). 3 Hours.**

Study of products and services provided by the health care delivery system; an analysis of those components lacking scientific credibility, yet promoted for the maintenance or restoration of health status.

This course is equivalent to PBHL 3683.

**PBHL 3901H. Honors Public Health Thesis Tutorial (Sp, Su, Fa). 1 Hour.**

Designed to provide the foundation for the Honors Thesis/Project. Students and faculty tutors work "one-on-one" exploring a specific topic which has been agreed upon by the student and the professor. Prerequisite: Honors candidacy.

**PBHL 4043. Internship in Public Health (Sp, Fa). 3 Hours.**

Designed to provide the student with an extended work experience in a selected community/public health program. The student works under college supervision with a professional in the health care delivery field. Pre- or Corequisite: PBHL 3643 and PBHL 4603. Prerequisite: Senior standing and successful completion of PBHL 1103 and PBHL 2663. May be repeated for up to 6 hours of degree credit.

**PBHL 410V. Global Health: Issues, Concepts and Perspectives (Su). 3-6 Hour.**

Emphasis placed on needs assessment, development, implementation, evaluation, and sustainability of public health initiatives designed to improve the health and well-being of community members at all levels of the health continuum; topics of focus will include determinants of health, mental health, environmental health, nutrition, maternal and child health, sexual health, injuries and chronic and infectious diseases. Prerequisite: Approval from Study Abroad to participate in the Community Development Service Learning Program.

**PBHL 410VH. Honors Global Health: Issues, Concepts and Perspectives (Su). 3-6 Hour.**

Emphasis placed on needs assessment, development, implementation, evaluation, and sustainability of public health initiatives designed to improve the health and well-being of community members at all levels of the health continuum; topics of focus will include determinants of health, mental health, environmental health, nutrition, maternal and child health, sexual health, injuries and chronic and infectious diseases. Prerequisite: Approval from Study Abroad to participate in the Community Development Service Learning Program.

This course is equivalent to PBHL 410V.

**PBHL 4401. Certified Health Education Specialist: Responsibilities and Competencies (Odd years, Sp). 1 Hour.**

This course is an overview of the competencies necessary for being a Certified Health Education Specialist (CHES), and also of the concepts and skills required for carrying out effective health education programs in a variety of different settings, including School, Community, Health Care and Worksite settings. Through a combination of self study, seminar discussions, and research projects, a thorough understanding of the competencies and core concepts in the fields of public health and health promotion will be attained. While the emphasis of the course is placed on studying for the CHES examination, the course will also provide a format to further your preparation as a professional health educator. Prerequisite: PBHL major.

**PBHL 4553. Environmental Health (Irregular). 3 Hours.**

This course explores current environmental problems and issues related to public health. Topics include health risk assessment, management, and communication; sources of pollution, environmental and health effects of war, food safety and other environmental health topics. Also discussed are the roles of the environment in human health and disease, the basic principles of environmental health practice, and major environmental health legislation and policy. Format for course will include lecture web based seminars, and small group seminars.

**PBHL 4603. Health Behavior: Theories and Application (Fa). 3 Hours.**

Understanding the reasons for health behavior is vital for the health education professional. It is necessary to assist in the development of services and programs that are likely to move an individual from an unhealthy behavior to one that is more appropriate for a healthy lifestyle. This course surveys the major health behavior theories used in health education and applications of the theories will be used in the class. Prerequisite: PBHL 2613.

**PBHL 4613. Principles of Epidemiology (Fa). 3 Hours.**

Distribution and patterns of disease or physiological conditions within populations; an examination of the nature of epidemiological research. Prerequisite: Senior standing and BIOL 2013 and BIOL 2011L.

**PBHL 4623. Human Diseases (Irregular). 3 Hours.**

An examination of the variety, behavior, distribution, and management of both infectious and noninfectious diseases in human populations. Prerequisite: BIOL 1603 (or BIOL 1543 and BIOL 1541L).

**PBHL 4643. Multicultural Health (Sp, Su). 3 Hours.**

Through lecture, discussion, simulations, and case studies, students will develop an appreciation for the cultural traditions and practices of different groups. The importance and implications of these traditions on health outcomes and health status will be examined. Students will also develop skills of cultural competence that are essential for public health practitioners today. Prerequisite: Senior standing or consent.

**PBHL 4643H. Honors Multicultural Health (Sp, Su). 3 Hours.**

Through lecture, discussion, simulations, and case studies, students will develop an appreciation for the cultural traditions and practices of different groups. The importance and implications of these traditions on health outcomes and health status will be examined. Students will also develop skills of cultural competence that are essential for public health practitioners today. Prerequisite: Senior standing or consent.

This course is equivalent to PBHL 4643.

**PBHL 498VH. Honors Public Health Thesis/Project (Sp, Su, Fa). 1-3 Hour.**

Designed to provide facilitation of the Honors Thesis/Project. Students and faculty work "one-on-one" to complete the honors thesis/project. Prerequisite: Honors candidacy and PBHL 3901H. May be repeated for up to 3 hours of degree credit.

**PBHL 5023. Teaching in Community Health Promotion (Sp, Fa). 3 Hours.**

Examination and practical exposure to the principles and practices of undergraduate teaching in public health. Includes course planning, teaching techniques, assessment strategies, and supervised practice. Prerequisite: Admission to the M.S. or Ph.D. program in Community Health Promotion. May be repeated for up to 3 hours of degree credit.

**PBHL 5213. Evaluation of Public Health Programs (Fa). 3 Hours.**

This seminar style course is designed to provide students with exposure to different types of program evaluation, including needs assessment, formative evaluation, process evaluation, and outcome and impact evaluation. The course covers theoretical frameworks supporting evaluation, ethics in evaluation, methods for data collection, reporting evaluation findings, and strengths and limitations of conducting program evaluation. Prerequisite: PBHL 5563 and HHPR 5353.

**PBHL 5353. Health Counseling (Odd years, Fa). 3 Hours.**

A review of the role and function of the health counselor including a focus on problem solving approaches for coping with daily problems of living, decision making, and life style planning.

**PBHL 5533. Theories of Social and Behavioral Determinants of Health (Fa). 3 Hours.**

This course will provide a basic foundation in the social and behavioral sciences relevant to public health. Students will learn the role of social and behavioral determinants in the health of individuals and of populations. Then, students will learn models and theories of health behavior, both generally and specifically. Generally, the student will learn how to identify, analyze, and use theoretical constructs and principles with particular attention to the use of theory in professional public health practice. Specifically, the student will learn the constructs and principles of several theories commonly used in public health behavior research and intervention design. The course will cover the four major individual that focus on intrapersonal factors (i.e., Health Belief Model, Transtheoretical Model, Theory of Reasoned Action/Planned Behavior, and Social Cognitive Theory) as well as several social, organizational, and community theories that are beyond the individual level.

**PBHL 5543. Contemporary Issues in Human Sexuality (Irregular). 3 Hours.**

Indepth analysis of the social, biological, and behavioral factors associated with the development of one's sexuality.

**PBHL 5563. Public Health: Practices and Planning (Sp). 3 Hours.**

Acquaints the student with the structure, functions, and current problems in public health and with the role of education in public health. Prevention and control practices and planning will be emphasized. Prerequisite: PBHL 5573.

**PBHL 5573. Principles of Health Education (Fa). 3 Hours.**

Current trends, basic issues, controversial issues, and fundamental principles of health education.

**PBHL 5613. Epidemiology (Fa). 3 Hours.**

This course will present principles and practices related to the prevention and control of health-related conditions in the human population. Emphasis will be placed on understanding the concepts of epidemiology, including aspects of disease distribution, epidemiologic methods, risk of disease and injury, descriptive and analytic epidemiologic methods and study designs, and application of epidemiologic data to the prevention and control of disease. Format will include lecture and small group seminars.

**PBHL 5633. Health Services Administration (Irregular). 3 Hours.**

Emphasis is on an examination of administrative factors related to health services. Administrative and professional authority, boards, consumers, delivery of services, federal role, and cost containment will also be addressed.

**PBHL 5643. Multicultural Health (Even years, Sp). 3 Hours.**

Through lecture, discussion, simulations, and case studies, students will develop an appreciation for the cultural traditions and practices of different groups. The importance and implications of these traditions on health outcomes and health status will be examined. Particular attention will be paid to the role of the public health educator in mediating the impact of health disparities, including advocacy. Students will develop skills of cultural competence that are essential for public health practitioners today. Prerequisite: Graduate standing or consent.

**PBHL 574V. Internship (Irregular). 1-6 Hour.**

Internship in health behavior and health promotion. May be repeated for up to 6 hours of degree credit.

**PBHL 589V. Independent Research (Sp, Su, Fa). 1-6 Hour.**

Development, implementation, and completion of graduate research project. Prerequisite: M.S. degree in Community Health Promotion and HHPR 5353 and ESRM 5393.

**PBHL 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Thesis in health behavior and health promotion. May be repeated for degree credit.

**PBHL 6013. Advanced Directed Research (Sp, Fa). 3 Hours.**

This course is intended for doctoral students who wish to pursue research under the direction of a faculty member. In this course, doctoral students will work independently and collaborate with faculty member(s) and fellow students to conduct research in a specified area of interest. The purpose of the course is for the student to develop knowledge in her/his own domain, strengthen her/his research skills, and work collaboratively on research projects. The course will aim for students to present research findings at conferences and/or publish research findings in peer reviewed journals. The directed research course places more emphasis on the students' role as a researcher in an academic setting. Prerequisite: Admission to the Ph.D. program in Community Health Promotion. May be repeated for up to 9 hours of degree credit.

**PBHL 605V. Independent Study (Sp, Su, Fa). 1-6 Hour.**

Provides students with an opportunity to pursue special study of education problems. May be repeated for up to 6 hours of degree credit.

**PBHL 6333. Health Behavior Research (Even years, Fa). 3 Hours.**

A review of human behavior and its relationship to health and wellbeing. Focuses on contemporary health behavior research and instrumentation.

**PBHL 6553. Environmental Health (Sp). 3 Hours.**

An analysis and evaluation of the various environmental factors that influence our health. Causes of problem factors are identified and solutions proposed for improving environmental conditions.

**PBHL 6733. Health and the Aging Process (Irregular). 3 Hours.**

An overview of the health-related issues facing elderly populations with in-depth study of the biological and behavioral changes associated with aging.

**PBHL 6803. Health Communication Theory, Research and Practice (Odd years, Sp). 3 Hours.**

This course is designed to acquaint you with the role of communication in health education and with basic principles and practices in interpersonal, group, and mass communication. Health communication theory will be discussed in the first part of the semester, followed by important research in the area of health communication, and finally putting to practice the material will be the terminal experience for the course.

**PBHL 6833. Principles of Epidemiology II (Sp, Su). 3 Hours.**

Provides students with knowledge and skills necessary to design, conduct, and interpret observational epidemiological concepts, sources of data, prospective cohort studies, retrospective cohort studies, case-control studies, cross-sectional studies, methods of sampling, estimating sample size, questionnaire design, and effects of measurement error. Corequisite: ESRM 5393 or ESRM 6403.

**PBHL 699V. Seminar (Irregular). 1-6 Hour.**

Discussion of selected topics and review of current literature in community health promotion. Prerequisite: Advanced graduate standing. May be repeated for up to 12 hours of degree credit.

## Public Policy (PUBP) Courses

**PUBP 6001. Pro-Seminar (Fa). 1 Hour.**

An introduction to the field of public policy and to the program. The seminar will address topics such as the meaning of public policy, policy research, the dissertation process, and particular issues of public policy concern. Prerequisite: Admission to program.

**PUBP 6013. Theories of Public Policy (Fa). 3 Hours.**

This seminar introduces doctoral students to the major concepts, frameworks, and theories of public policy. Emphasis is on the usefulness and limitations of these frameworks and theories in empirical research. Prerequisite: Graduate standing.

**PUBP 6023. Law and Public Policy (Fa). 3 Hours.**

This course focuses on the legal aspects of public policy, with emphasis on the regulatory process and its legal constraints. Also considered are the process of administrative decision making, judicial review, legislative oversight, and public access to government information.

**PUBP 6033. Community Development Policy and Practice (Su). 3 Hours.**

This course examines multiple community development definitions, the community capitals framework as well as theories, conceptual frameworks and processes and how these are linked, both historically and currently, to broad-based US public policy and specifically, housing and workforce development policies.

**PUBP 604V. Special Topics in Public Policy (Irregular). 1-6 Hour.**

Designed to cover specialized topics not usually presented in depth in regular courses. May be repeated for up to 6 hours of degree credit.

**PUBP 6103. Policy Planning, Implementation, and Evaluation (Irregular). 3 Hours.**

This interdisciplinary seminar will explore the relationship between policy, public administration, and organizations in the community. Stakeholder groups will be considered as part of the newer approaches to practice-driven scholarship. The class will examine innovative approaches to decision making, strategic management and policy leadership in complex interorganizational and interagency settings.

**PUBP 6113. Agenda Setting and Policy Formulation (Fa). 3 Hours.**

Introduces agenda and policy formation focusing on the classic theoretical and empirical literature. The course is designed to introduce graduate students to a variety of theories typologies, concepts, and ideas relating to the study of public policy.

**PUBP 612V. Research Problems in Policy (Sp, Su, Fa). 1-6 Hour.**

Research problems. May be repeated for up to 6 hours of degree credit.

**PUBP 6134. Capstone Seminar in Public Policy (Sp, Fa). 4 Hours.**

This course is intended to integrate various policy interests in a specific community based project. Prerequisite: Instructor permission required.

**PUBP 6143. Mixed Method Research Design (Irregular). 3 Hours.**

Mixed method research is a multi-point research strategy that combines quantitative and qualitative research strategies into a single research project.

**PUBP 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Doctoral dissertation. Prerequisite: Candidacy. May be repeated for degree credit.

## Recreation and Sport Management (RESM) Courses

**RESM 1003. Professional Foundations of Leisure (Sp, Fa). 3 Hours.**

An analysis of the historical and philosophical development of recreation, sport and leisure. Theories of play, recreation, sport and leisure are studied. Economic, political, technical, and social forces are examined as these influence recreation, sport, parks, and leisure services is examined in context with diverse service delivery systems. Prerequisite: RESM major or RESM minor or by instructor consent.

**RESM 1023. Recreation and Natural Resources (Sp, Su, Fa). 3 Hours.**

An examination of the use and management of natural resources for outdoor recreation with consideration of multiple use, environmental ethics, risk management, and other current considerations. Several field visits will be required as part of the class, including a weekend outing. Prerequisite: RESM major or RESM minor or by instructor consent.

**RESM 2011. Recreation and Sport Practicum (Sp, Su, Fa). 1 Hour.**

Students are assigned to assist in leisure-oriented programs for exposure to organizational structure, services, and programming of cooperating recreational and sport agencies. Students may take 1-3 hours per semester; each credit hour is a 45-hour experience. Students must complete 3 different experiences before internship. Prerequisite: RESM 1003 with a grade of C or better. May be repeated for up to 3 hours of degree credit.

**RESM 2063. Commercial Recreation and Sport (Sp, Fa). 3 Hours.**

Examination of the commercial recreation and sport industries. The operational requirement of a wide range of recreation businesses will be studied. Case study and field investigation methods will be emphasized. Prerequisite: RESM 1003 with a grade of C or better.

**RESM 2093. Inclusive and Special Recreation and Sport (Sp). 3 Hours.**

An introduction to the basic concepts of inclusive and special recreation and sport services integrated with knowledge and skill sets required to provide accessible recreation and leisure programming for people with disabilities. Prerequisite: RESM 1003 with a grade of C or better.

**RESM 2813. Recreation and Sport Leadership (Sp, Fa). 3 Hours.**

Development of knowledge related to leadership theory, group dynamics, and face to face leadership techniques. Students gain an understanding of leadership theories as they are applied in a field setting. Pre- or Corequisite: COMM 1313. Prerequisite: RESM 1003 with a grade of C or better.

**RESM 2853. Leisure and Society (Sp, Su, Fa). 3 Hours.**

This course is an examination of leisure and its effect on society. Course content includes identification and exploration of motivating factors related to various traditional and contemporary leisure expressions as it occurs across diverse populations.

**RESM 2853H. Honors Leisure and Society (Sp, Fa). 3 Hours.**

This course is an examination of leisure and its effect on society. Course content includes identification and exploration of motivating factors related to various traditional and contemporary leisure expressions as it occurs across diverse populations.

This course is equivalent to RESM 2853.

**RESM 3023. Sport Management Fundamentals (Fa). 3 Hours.**

This course is designed to present an overview of the fundamentals of sport management in professional and intercollegiate sport, as well as issues facing sport organizations and how management techniques can be applied to solve sport business problems. A description of career opportunities in sport will be presented with special interest in helping the student design a course of study that best meets his/her goals. Prerequisite: RESM 1003 with a grade of C or better.

**RESM 3833. Program Planning in Recreation and Sport (Sp). 3 Hours.**

Development of the fundamentals of program planning using modern techniques of identifying and analyzing program activity areas and community needs. Includes program development and application with a variety of population groups and representative leisure service areas. Prerequisite: RESM 1003 with a grade of C or better.

**RESM 3843. Recreation and Sport Facilities (Sp). 3 Hours.**

Planning concepts, design principles, and maintenance techniques are emphasized. Also, technical design concepts and firsthand experiences in maintenance of facilities are included. Prerequisite: RESM 1003 with a grade of C or better.

**RESM 3873. Sport and Recreation Risk Management (Fa). 3 Hours.**

In-depth look at risk management and related legal issues affecting recreation and sport administration. Pre- or Corequisite: RESM major or RESM minor or by instructor consent. Prerequisite: Junior standing, and RESM 1003 with a grade of C or better.

**RESM 3883. Marketing and Promotion in Recreation and Sport Management (Sp, Fa). 3 Hours.**

This course provides an overview of the principles and practices of promotions and marketing in the recreation and sport industry. Topics include sport marketing planning, market segmentation and identification of the target market, marketing mix, and sponsorship. Credits: three hours. Prerequisite: RESM 1003 with a grade of C, and ECON 2143 or ECON 2013 and ECON 2023.

**RESM 3901H. Honors Recreation and Sport Management Thesis Tutorial (Sp, Su, Fa). 1 Hour.**

Designed to provide the foundation for the Honors Thesis/Project. Students and faculty tutors work "one-on-one" exploring a specific topic which has been agreed upon by the student and the professor. Prerequisite: Honors candidacy and RESM 1003 with a grade of C or better.

**RESM 4003. Management in Recreation and Sport (Sp, Fa). 3 Hours.**

Management techniques for recreation and sport programs and facilities. Prerequisite: RESM 1003 with a grade of C or better.

**RESM 4013. Contemporary Issues in Leisure and Sport (Sp). 3 Hours.**

Discussion of selected topics and review of current literature in the recreation and sport field. Analysis of current trends and professional issues are emphasized. Certification at the instructor level or higher in at least 2 areas of expertise must be completed before a grade is assigned in this course. Prerequisite: Senior standing and RESM 1003 with a grade of C or better.

**RESM 4023. Outdoor Adventure Leadership (Su). 3 Hours.**

This course considers the values and scope of outdoor recreation programs, leadership and skill development with practical experience in a wilderness environment. The course will include a canoe trip through the wilderness, and skill training in such areas as orienteering and rock climbing; and leadership development in interpersonal and processing skills. The graduate portion of the class is geared toward leading and trip planning for taking college age and older students into remote areas.

**RESM 405V. Independent Study in Recreation and Sport (Sp, Su, Fa). 1-3 Hour.**

Provides student an opportunity to pursue special study of research problems. May be repeated for degree credit.

**RESM 4083. Research in Recreation and Sport (Sp, Fa). 3 Hours.**

An introduction to the applied methods and techniques of research and evaluation in recreation and sport services. General consideration given to research applications such as needs assessment, program evaluation, and marketing studies. Emphasis placed on the logic underlying the research process. Prerequisite: Senior standing and RESM 1003 with a grade of C or better.

**RESM 4083H. Honors Research in Recreation and Sport (Sp, Fa). 3 Hours.**

An introduction to the applied methods and techniques of research and evaluation in recreation and sport services. General consideration given to research applications such as needs assessment, program evaluation, and marketing studies. Emphasis placed on the logic underlying the research process. Prerequisite: Honors candidacy and RESM 1003 with a grade of C or better.

This course is equivalent to RESM 4083.

**RESM 4273. The Intramural Sports Program (Odd Years, Fa). 3 Hours.**

Historical development, aim and objectives, organization, administration, units of competition, program of activities, schedule making, scoring plans, rules and regulations, awards, and special administrative problems.

**RESM 440V. Internship (Sp, Su, Fa). 1-12 Hour.**

This experiential based course requires 40 hours per week of work in an approved agency for a full semester. It is recommended that students register for the summer session after completion of their course work. Prerequisite: RESM 3873 and two hours of RESM 2011 with grades of C or better.

**RESM 4411. Pre-Internship Preparation (Fa). 1 Hour.**

Enables student preparation for internship experiences and eventual employment. Course will assist students in preparation of resumes; provide opportunities for interview practice; the development of job search and application skills, as well as other requisites for entering the professional workforce. Prerequisite: Senior standing and RESM 1003 with a grade of C or better.

**RESM 480V. Workshop (Irregular). 1-3 Hour.**

May be repeated for up to 3 hours of degree credit.

**RESM 498VH. Honors Recreation and Sport Management Thesis/Project (Sp, Su, Fa). 1-3 Hour.**

Designed to provide facilitation of the Honors Thesis/Project. Students and faculty work "one-on-one" to complete the honors thesis/project. Prerequisite: Honors candidacy and RESM 3901H. May be repeated for up to 3 hours of degree credit.

**RESM 5293. Athletics and Higher Education (Sp, Su). 3 Hours.**

This course features an examination of the historical development of athletics within American institutions of higher learning with an emphasis upon concepts and ideals that underlie the developments and the major problems affecting contemporary intercollegiate athletics. The purpose of this course is to teach the learner about the development of intercollegiate athletics from the mid-19th century to today. A second purpose of this course is to examine the major issues facing sport administrators within intercollegiate athletics today.

**RESM 5333. Sport Media and Public Relations (Fa). 3 Hours.**

The course will explore the relationship between media organizations and sport organizations, with an emphasis on the business of media rights, as well as public relations theories such as two-way symmetrical communication and agenda setting. Finally, the course will examine practical communication tactics employed by public relations practitioners such as image repair and crisis communications, and the issues presented by forms of new media.

**RESM 5463. Sports Facilities Management (Su). 3 Hours.**

Considers basic elements and procedures in the planning, design, construction, operation, and maintenance of sport facilities; management considerations in conducting various types of events.

**RESM 560V. Workshop (Irregular). 1-3 Hour.**

May be repeated for up to 3 hours of degree credit.

**RESM 574V. Internship (Sp, Su, Fa). 1-3 Hour.**

This experiential-based course requires 135 hours per semester of work in a recreation or sport setting.

**RESM 5813. Social Issues in Sport (Su, Fa). 3 Hours.**

Using sociological theories and scholarship to examine social and cultural influences on sport and physical activity. Course is based on a social justice framework and a cultural studies perspective.

**RESM 5833. Recreation and Sport for Special Populations (Irregular). 3 Hours.**

Skills, knowledge, and concepts within recreation and sport which are appropriate to planning and implementing recreation and sport programs and services for the handicapped.

**RESM 5843. Tourism (Sp). 3 Hours.**

Explores major concepts of tourism to discover what makes tourism work, how tourism is organized, and its social and economic effects.

**RESM 5853. Capstone in Recreation and Sport Management (Sp). 3 Hours.**

Capstone course where students utilize program courses to solve administrative issues which may arise in an organization. Attention is given to how departmental organization, administrative practices and policies, strategic planning, personnel management, finances, and legal areas are integrated to create solutions to broad-based contemporary issues.

**RESM 5873. Leadership in Recreation and Sport Management Services (Su, Fa). 3 Hours.**

Considers research, theory, and practical applications of leadership principles utilized in the provision of recreation and sport management services. Focus is on motivation, attitude, communication, group dynamics, and problem solving.

**RESM 5883. Recreation and Sport Services Promotion (Su). 3 Hours.**

Examines specific strategies for promoting recreation and sport programs in the local community.

**RESM 5893. Public and Private Finance in Recreation and Sport Management (Fa). 3 Hours.**

Develops an understanding of both public and private finance management for students in public and private management positions. Provides an understanding of the budgeting processes and techniques used in obtaining and controlling funds, including private sector finance problems in areas of credit, pricing, indexing, and debt management.

**RESM 600V. Master's Thesis (Sp, Su, Fa). 1-18 Hour.**

Master's Thesis. May be repeated for degree credit.

**RESM 605V. Independent Study (Sp, Su, Fa). 1-3 Hour.**

May be repeated for up to 3 hours of degree credit.

**RESM 612V. Directed Reading in Recreation and Sport (Sp, Su, Fa). 1-3 Hour.**

Critical analysis of literature in the area of recreation and sport.

**RESM 6133. Issues in RESM (Irregular). 3 Hours.**

A review of the significant social, demographic, behavioral, developmental, and technological issues that influence health, kinesiology, and recreation and sport management programs. Pre- or Corequisite: Doctoral level students only.

**RESM 6533. Legal and Political Aspects (Sp). 3 Hours.**

An overview of major legislation affecting recreation and sport management professions; how to operate within these laws; and methods for influencing new legislation. Also discusses political aspects of professions both outside and inside government agencies.

**RESM 674V. Internship (Sp, Su, Fa). 1-3 Hour.**

Students will learn diverse teaching techniques and implement them in an ongoing undergraduate recreation and sport management class serving as the teaching laboratory. The "what" "when" and "how" relative to integrating various teaching techniques with specific content areas in the class will be explored by both the student and the instructor.

## Rehabilitation Education (RHAB) Courses

**RHAB 4423. Process and Behavioral Addictions (Irregular). 3 Hours.**

This course provides an overview of non-substance related addictive disorders such as technology (e.g., video games, Internet, television), gambling, eating, sex, shopping/buying and work as well as potential treatment options for these disorders. Prerequisite: RHAB 3423.

**RHAB 534V. Supervised Rehabilitation Counseling (Sp, Su, Fa). 1-3 Hour.**

Gives the student practice in counseling under supervision with rehabilitation clients in selected settings and agencies.

**RHAB 5363. Employer Relations and Placement Practicum (Sp, Su, Fa). 3 Hours.**

Students address the placement needs of rehabilitation agencies and their clients by implementing the RehabMark approach to employer development. Prerequisite: RHAB 5493.

**RHAB 5373. Multicultural/Gender Issues in Rehabilitation (Su). 3 Hours.**

This course examines multicultural and gender issues of importance to rehabilitation practice and research, including study of women and men with disabilities within different minority cultures. The course uses a power analysis and a minority model of disability as a basis for understanding the relationship between disability, gender, race and ethnicity.

**RHAB 5383. Theories and Foundations of Addiction (Sp). 3 Hours.**

This course will introduce students to the field of addictions by defining clinical models of addiction, to include alcohol and other drugs, gambling, food, sex, criminal behavior and other types of addiction. This course will also introduce students to (a) key concepts of pharmacology, assessment, and diagnosis, (b) methods of prevention, intervention, treatment and care, (c) the impact of addiction on the family system, (d) ethics principles, and (e) the 12 core functions of practice for rehabilitation and clinical mental health professionals.

**RHAB 5393. Principles and Practices of Psychiatric Rehabilitation (Fa). 3 Hours.**

The course introduces students to the principles and practices of recovery-oriented, evidence-based psychiatric rehabilitation. Through lectures, guest presentations, films, discussions, and readings, students (a) explore the clinical, psychosocial, and vocational aspects of psychiatric disabilities and (b) examine psychiatric rehabilitation principles and practices to facilitate community integration and successful employment outcomes for individuals with psychiatric disabilities.

**RHAB 5423. Vocational Rehabilitation Foundations (Fa). 3 Hours.**

Survey of the philosophy of vocational rehabilitation, including history and legislation.

**RHAB 5433. Medical Aspects of Disability (Sp). 3 Hours.**

Orientation to medical and medically related aspects of various disabling conditions with emphasis on the severely disabled.

**RHAB 5443. Rehabilitation Case Management (Sp). 3 Hours.**

Counseling process in the rehabilitation setting. Focusing upon effective counseling strategies, representative cases, and effective case management methods.

**RHAB 5453. Psychological Aspects of Disability (Sp). 3 Hours.**

Intensive study of the psychological aspects of adjustment to atypical physique and prolonged handicapping condition.

**RHAB 5463. Independent Living and Community Adjustment (Fa). 3 Hours.**

Study of the problems and practices involved in developing and maintaining independent living rehabilitation programs for people who are disabled physically, developmentally, and mentally.

**RHAB 5473. Placement of Persons with Disabilities (Su). 3 Hours.**

Focuses on placement theory and practice as they apply to persons who experience disabilities. Special attention is given to RehabMark approach.

**RHAB 5483. Rehabilitation Counseling Research (Fa). 3 Hours.**

An in-depth examination of rehabilitation research methodology and issues to prepare students to critically evaluate and use rehabilitation counseling research in their professional practice.

**RHAB 5493. Vocational Evaluation and Adjustment (Sp). 3 Hours.**

An in-depth examination of theories and techniques related to evaluation of vocational potential and work adjustment of people with disabilities.

**RHAB 5513. Professional and Legal Issues in Addiction Counseling (Irregular). 3 Hours.**

This course introduces students to key ethical principles and values within the field of addictions treatment and counseling. The history of the implementation of ethical principles and standards as well as specific professional codes of ethics relevant to the field of addiction (i.e., APA, CRCC, NAADAC) are thoroughly covered.

**RHAB 5523. Clinical Assessment and Treatment in Addictions (Irregular). 3 Hours.**

This course introduces students to the process of screening, evaluation/assessment, and treatment processes within the field of addiction. This course will also address special issues related to assessment and treatment such as co-occurring disorders, cultural and gender factors, and pharmacological treatment options.

**RHAB 5543. Family Constructs and Addictions Counseling (Irregular). 3 Hours.**

This course analyzes the impact of addictions on the family system and introduces students to the theory of marriage and family approaches used in addictions counseling. Special topics covered in the course include but are not limited to counseling women, employment issues, multicultural issues, ethics, and trauma.

**RHAB 574V. Internship (Sp, Su, Fa). 1-9 Hour.****RHAB 599V. Seminar (Sp, Su, Fa). 1-18 Hour.**

May be repeated for up to 18 hours of degree credit.

**RHAB 605V. Independent Study (Sp, Su, Fa). 1-18 Hour.****RHAB 6203. Disability Policy in the U.S. (Fa). 3 Hours.**

An analysis of public policy approaches to disability in the U.S. Examines the political and philosophical origins of disability policy; reviews major disability legislation and its effects on policy stakeholders; describes recent initiatives; and analyzes evolution of disability policy within context of changing societal, economic, and political conditions.

This course is cross-listed with PLSC 5233.

**RHAB 6213. Advanced Psychosocial Aspects of Disability (Odd years, Fa). 3 Hours.**

A theoretical and applied study of techniques that enable people to cope with 2 major life events: disability and unemployment.

**RHAB 6233. Employment Practices and Interventions (Sp). 3 Hours.**

An intensive study of the employment experiences of workers with disabilities with emphasis on disincentives and barriers to employment and interventions to enable people with disabilities to participate in employment. Prerequisite: RHAB 5493 or equivalent.

**RHAB 6243. Advanced Rehabilitation Research (Sp). 3 Hours.**

An advanced doctoral level course to facilitate the application of scientific values, research skills, and behavior to the generation of rehabilitation knowledge and problem solving.

**RHAB 625V. Teaching Internship in Rehabilitation (Sp, Su, Fa). 1-18 Hour.**

Graduate teaching experience in the rehabilitation counseling curriculum. Under the supervision of a faculty member, will participate in the development of syllabi, course materials and examinations. Will team teach graduate rehabilitation courses with the faculty member. May be repeated for up to 18 hours of degree credit.

**RHAB 6263. Clinical Supervision of Practicum Students (Su). 3 Hours.**

The study and practice of supervising master's rehabilitation counseling students in a clinical practicum setting. Prerequisite: Doctoral standing.

**RHAB 675V. Internship (Sp, Su, Fa). 1-18 Hour.**

Advanced supervised practice in a rehabilitation setting.

**RHAB 699V. Seminar (Sp, Su, Fa). 1-18 Hour.**

Discussion of pertinent topics and issues in the rehabilitation field. Prerequisite: Advanced graduate standing. May be repeated for up to 18 hours of degree credit.

**RHAB 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Doctoral Dissertation. Prerequisite: Candidacy. May be repeated for degree credit.

## Rural Sociology (RSOC)

### Courses

#### **RSOC 500V. Special Problems (Sp, Su, Fa). 1-6 Hour.**

Gives experience in executing research and in analyzing a sociological problem of agriculture. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

#### **RSOC 5603. Community and Natural Resources (Irregular). 3 Hours.**

Introduction to the breadth of considerations involved in community resource management, including theoretical frameworks, methodological investigations and applied practices to enhance the ability of community development professionals to work with their communities to plan, develop and monitor the conservation and development of natural resources with multiple functions.

#### **RSOC 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Master's Thesis. Prerequisite: Graduate standing. May be repeated for degree credit.

#### **RSOC 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Doctoral Dissertation. May be repeated for degree credit.

## Russian (RUSS)

### Courses

#### **RUSS 1003. Elementary Russian I (Fa). 3 Hours.**

#### **RUSS 1013. Elementary Russian II (Sp). 3 Hours.**

Elementary courses stress correct pronunciation, aural comprehension, and simple speaking ability, and lead to active mastery of basic grammar and limited reading ability.

#### **RUSS 2003. Intermediate Russian I (Fa). 3 Hours.**

Intermediate courses stress correct pronunciation, aural comprehension, and simple speaking ability, and lead to active mastery of basic grammar and limited reading ability.

#### **RUSS 2013. Intermediate Russian II (Sp). 3 Hours.**

Continued development of basic, speaking comprehension and writing skills and intensive development of reading skills.

#### **RUSS 3003. Advanced Russian I (Irregular). 3 Hours.**

Through reading and discussing contemporary political and historical events students advance their speaking, listening, and writing skills. The course builds on and advances the language skills acquired in the 2013 Intermediate course. Prerequisite: RUSS 2013, or equivalent language skills that will be equal to four semesters of language instruction.

#### **RUSS 3013. Introduction to Literature (Irregular). 3 Hours.**

Development of reading skills and introduction to literary analysis. Prerequisite: RUSS 2013 or equivalent.

#### **RUSS 3023. Listening Comprehension (Irregular). 3 Hours.**

Provides intensive practice in listening to recordings taken from such sources as television broadcasts, lectures, and readings of literature. This is supplemented by conversation and by comprehension tests. Prerequisite: RUSS 2003.

#### **RUSS 4123. Survey of Russian Literature from Its Beginning to the 1917 Revolution (Irregular). 3 Hours.**

The instructor will discuss the historical and cultural backgrounds while focusing on major writers and will deal with literature as an outlet for social criticism. There will be textual analysis. It will be taught in English.

This course is cross-listed with WLIT 4123.

#### **RUSS 4133. Survey of Russian Literature Since the 1917 Revolution (Irregular). 3 Hours.**

The instructor will discuss the historical and cultural backgrounds while focusing on major writers and will deal with literature as an outlet for social criticism. There will be textual analysis. It will be taught in English with readings in English.

This course is cross-listed with WLIT 4133.

#### **RUSS 475V. Special Investigations (Sp, Fa). 1-6 Hour.**

May be repeated for degree credit.

## STEM Education for Early Childhood (STEM)

### Courses

#### **STEM 2103. Knowing and Learning in Science and Mathematics (Sp, Fa). 3 Hours.**

This course draws on scholarship in educational psychology to provide a firm foundation for the teaching of science and mathematics by exploring what it means to know and understand in these disciplines, and how that influences instructional methods and assessment. Prerequisite: ARSC 1201 or instructor consent.

#### **STEM 2203. Classroom Interactions (Fa). 3 Hours.**

This course examines the interplay between teachers, students, and content, and how such interactions enable students to develop deep conceptual understanding of science and mathematics in secondary schools. Students learn a variety of instructional strategies to engage students of diverse backgrounds, acknowledging that quality instruction should reach all learners. Prerequisite: ARSC 1201 and ARSC 1221 (Step 1 and Step 2 courses of the UTeach sequence) or instructor consent.

#### **STEM 3303. Project Based Instruction for Secondary Mathematics and Science (Fa). 3 Hours.**

This teacher preparation course focuses on the integration of mathematics and science concepts in project-based lessons to model ways used by scientists, mathematicians, and engineers in addressing real world problems. Each student team will design and teach a project-based unit and evaluate its effectiveness in a secondary classroom. Prerequisite: STEM 2203 or instructor consent.

#### **STEM 4033. Introduction to STEM Education (Sp, Su). 3 Hours.**

This course provides an introduction to the foundations of STEM education disciplines and the strategies used to deliver integrative STEM education in the elementary and secondary school setting. The nature of STEM education disciplines, STEM pedagogy, teaching strategies, integrative STEM learning, STEM careers, and problem-centered instruction are addressed.

#### **STEM 4104. Astronomy for Educators (Sp, Fa). 4 Hours.**

Astronomy for Educators splits evenly between the basics of astronomy and practical methods for teaching astronomy effectively to all grade levels. The class is appropriate and effective for elementary, middle school, and secondary educators. Pedagogy focuses on the use of low-cost models that help all students grasp astronomy fundamentals such as phases of the Moon and how our solar system works. Lab activities include building and working with scientific models, evening lab activities give students the opportunity to use telescopes and binoculars to observe the Moon, planets, constellations and more. No prior experience or astronomy knowledge is assumed for this course.

#### **STEM 4333. Perspectives on Science and Mathematics (Sp). 3 Hours.**

Perspectives on Science and Mathematics explores knowledge generation in the sciences along with consideration of mathematics by referencing the philosophy, history and methods of these disciplines. The course is designed to prepare future teachers with the background, rationales and strategies necessary to enhance student knowledge and interest in these areas.

**STEM 4409. Supervised Clinical Teaching in Science and Mathematics Education (Sp). 9 Hours.**

Supervised Clinical Teaching is the apprenticeship experience for UTeach students preparing for careers as mathematics and science teachers. Student interns will teach at the secondary level with mentoring provided by university supervisors and experienced classroom educators. The required seminar will address experiences, questions and problems encountered in the field. Prerequisite: ARSC 1201, ARSC 1221, STEM 2013, STEM 2203 and STEM 3303.

**STEM 5023. Creativity and Innovation in STEM (Su, Fa). 3 Hours.**

This introductory course in technology and engineering education (TEED) focuses on the development and introduction of TEED activities to support science and mathematics instruction in the elementary classroom. Through hands-on, problem-based learning challenges, students will develop and understanding of the engineering design process and the integration of STEM often used to solve real-world problems. Prerequisite: STEM 4033.

**STEM 5203. Problem-Based Mathematics (Irregular). 3 Hours.**

This graduate level course focuses on sharing, modeling and practicing strategies to support the meaningful integration of science, technology, engineering and mathematics (STEM) with the emphasis on mathematics in the K-4 classroom. A strong foundation for integrating the STEM disciplines through a problems-based approach within the elementary curriculum will be developed by providing students with theoretical frameworks, research, resources, and methods related to appropriate and effective classroom practice. Prerequisite: CIED 3123.

**STEM 5213. Teaching Problem-Based Science in the Elementary Grades (Sp). 3 Hours.**

This graduate level course focuses on sharing, modeling and practicing strategies to support the meaningful integration of science, technology, engineering and mathematics (STEM) with the emphasis on science in the K-4 classroom. A strong foundation for integrating the STEM disciplines through a problems-based approach within the elementary curriculum will be developed by providing students with theoretical frameworks, research, resources, and methods related to appropriate and effective classroom practice. Prerequisite: CIED 3143 and admission to the M.A.T. program or enrollment in the M. Ed. program.

## Secondary Education (SEED) Courses

**SEED 5003. Introduction to Teaching Secondary Science (Su). 3 Hours.**

Study of the methods and materials for teaching science. Includes philosophical, cognitive, and psychological dimensions of teaching science. The planning of instruction, microteaching, safety and liability issues, and the development of instructional materials are included. Prerequisite: Admission to the M.A.T. program. May be repeated for up to 6 hours of degree credit.

**SEED 5013. Teaching Secondary Science: Theory to Practice (Fa). 3 Hours.**

This course is a continuation of SEED 5003, Introduction to Teaching Secondary Science, and is taken concurrently with CIED 528V, Secondary Cohort Teaching Internship. Students will receive instruction in advanced methodologies for teaching science and will reflect on their experiences in their internships. Corequisite: CIED 528V. Prerequisite: SEED 5003.

**SEED 5022. Secondary Science Seminar (Sp). 2 Hours.**

This course is a continuation of SEED 5013, Advanced Teaching of Secondary Science, and is taken concurrently with CIED 528V, Secondary Cohort Teaching Internship, in the spring semester of the Secondary Education M.A.T. program. Students will receive instruction in advanced methodologies for teaching science and will reflect on their experiences in their teaching internships. Corequisite: CIED 528V. Prerequisite: SEED 5013.

**SEED 5103. Methods of Teaching Secondary Social Studies I (Su). 3 Hours.**

Study of the methods and materials in social studies. Includes philosophical, cognitive, and psychological dimensions of teaching. The planning of instruction, microteaching, and the development of instructional materials are included. Prerequisite: Admission to the M.A.T. program.

**SEED 5113. Teaching History, Government and Economics (Fa). 3 Hours.**

Study of the methods and materials in teaching history, government and economics. Includes philosophical, cognitive, and psychological dimensions of teaching, planning of instruction, microteaching, and the development of instructional materials are included. Prerequisite: Admission to the M.A.T. program.

**SEED 5122. Teaching Geography, World Cultures, and Religions (Sp). 2 Hours.**

Study of the methods and materials in teaching geography, world cultures and comparative religion. Includes philosophical, cognitive, and psychological dimensions of teaching, planning of instruction, microteaching, and the development of instructional materials are included. Prerequisite: Admission to the M.A.T. program. May be repeated for up to 4 hours of degree credit.

**SEED 5222. Seminar: Language, Literacy and Culture (Sp). 2 Hours.**

This course is designed to examine advanced practices related to teaching English language arts and literacy, broadly defined. Topics, issues, methods, and materials encompassing the philosophical, cognitive, cultural, and social dimensions of teaching English language arts constitute the crux of the course.

**SEED 5303. Teaching Secondary Mathematics (Su). 3 Hours.**

Study of the methods and materials in teaching middle, junior high, and high school mathematics. Philosophical, cognitive, and psychological dimensions of teaching secondary topics including, but not limited to algebra, geometry, and statistics. The planning of instruction, microteaching, and the development of instructional materials are included. Prerequisite: Admission to the M.A.T. program in Mathematics.

**SEED 5313. Theories of Learning Mathematics (Fa). 3 Hours.**

Examination of research results related to student learning and achievement in secondary mathematics in the areas of rational numbers, algebraic reasoning, geometric proof, and data and probability. Prerequisite: SEED 5303.

**SEED 5322. Integrating Technology and Mathematics (Sp). 2 Hours.**

Study of methods for integrating technology into secondary mathematics classrooms including but not limited to the use of graphing calculators, geometric software, and spreadsheet. Prerequisite: SEED 5303 and SEED 5313.

**SEED 5403. Methods of Teaching Foreign Language K-12 (Su). 3 Hours.**

Study of the theories and methods of teaching foreign language. Includes philosophical, cognitive, and psychological dimensions of teaching, the standards for teaching foreign language, how to plan instruction, microteaching, and the development of instructional materials. Prerequisite: Admission to the M.A.T. program. May be repeated for up to 6 hours of degree credit.

**SEED 5413. Instructional Practices in Teaching Foreign Language (Fa). 3 Hours.**

The theoretical and practical aspects of methods, techniques, and materials for effective teaching of foreign/second languages in K-12 schools. Prerequisite: Admission to the M.A.T. program.

**SEED 5422. Special Issues in Teaching Foreign Language (Sp). 2 Hours.**

Instructional strategies that address the needs of diverse language learners, special needs students, heritage speakers, and the use of technology to enhance language learning. Prerequisite: Admission to the M.A.T. program. May be repeated for up to 4 hours of degree credit.

**SEED 5503. Teaching Secondary Mathematics and Science (Su). 3 Hours.**

Study of the methods and materials for teaching secondary mathematics and science. Includes the philosophical, cognitive, and psychological dimensions of teaching mathematics and science. The planning of instruction, microteaching, and the development of instructional materials are included. Prerequisite: Admission to the M.A.T. program.



**SEED 6133. Advanced Methods of Social Studies Instruction (Even years, Sp). 3 Hours.**

Advanced exploration and experimentation with research supported methods of teaching social studies. Intended for practicing teachers or those with teaching experience in any of the social sciences.

## Social Work (SCWK)

### Courses

**SCWK 2133. Introduction to Social Work (Sp, Su, Fa). 3 Hours.**

Introduction to social work as a profession and to social welfare institutions from the perspective of the generalist, entry level social worker. Emphasis on empowerment function of social work.

**SCWK 3013. Child Advocacy I: Perspectives on Child Maltreatment and Child Advocacy (Fa). 3 Hours.**

Introductory course in child advocacy studies training. Covers the history, comparative perspectives, legal framework, responses to child maltreatment, skills necessary to do the work, other pertinent issues pertaining to child maltreatment and child advocacy.

**SCWK 3163. On Death and Dying (Irregular). 3 Hours.**

Reviews the theory and humanistic importance of the concepts of death and dying in society. An experimental option and interdisciplinary faculty presenters will be part of the format.

This course is cross-listed with HUMN 3163.

**SCWK 3193. Human Diversity and Social Work (Sp, Su, Fa). 3 Hours.**

An introduction to information basic concepts related to human diversity and social work. Provides content on differences and similarities in the experiences, needs, and beliefs of people distinguished by race, ethnicity, culture, class, gender, sexual orientation, religion, physical or mental ability, age or national origin. The Live Section of this course is for Social Work Majors and Minors only. The Online Section (901) is open to Non-Social Work Majors. Prerequisite: Social Work major or minor for live sections only. Online sections (901) open to students in other departments.

**SCWK 3233. Contemporary Issues in Juvenile Justice (Sp, Su, Fa). 3 Hours.**

This course is designed as a discussion of contemporary issues in juvenile justice. The focus is on the child and family system, including various theories related to underlying causes for involvement in the juvenile courts. This course will also describe the current workings of the juvenile court system and implications for the future.

**SCWK 3633. Child Welfare: 21st Century Perspectives (Irregular). 3 Hours.**

Study of the needs of deprived children with some attention to methods and standards of care. Cultural competence and family-centered practice are emphasized.

**SCWK 399VH. Honors Course (Irregular). 1-18 Hour.**

Prerequisite: Junior standing. May be repeated for up to 12 hours of degree credit.

**SCWK 4013. Child Advocacy II: Professional and System Responses to Child Maltreatment (Sp). 3 Hours.**

Continuation of Child Advocacy Studies I. Focuses on the responses of professionals to allegations of child maltreatment. Covers competency-based skills training including forensic interviewing and documentation. Prerequisite: SCWK 3013.

**SCWK 4023. Child Advocacy III: Responding to the Survivor of Child Abuse (Su). 3 Hours.**

Continuation of Child Advocacy Studies II. Provides training to recognize the effects of child maltreatment and to develop intervention strategies for children and their families. Outside experiential activities for this course involve court room observations. Prerequisite: SCWK 3013 and SCWK 4013.

**SCWK 405V. Special Topics in Social Work (Irregular). 1-6 Hour.**

Comprehensive study of various topics of importance in contemporary social welfare and social work practice. Prerequisite: Junior standing. May be repeated for degree credit.

**SCWK 4073. Social Work Research and Technology I (Sp, Fa). 3 Hours.**

An overview of forms and sources of social work research including existing social data, techniques for collecting original social data, and techniques of organization, interpretation, and presentation of data. Students will also become proficient in the use of current technology for social work research and practice. Pre- or Corequisite: One of the following: STAT 2303, SOCI 3303 and SOCI 3301L, PSYC 2013, or ESRM 2403. Prerequisite: SCWK 4093 and SCWK 4153.

**SCWK 4093. Human Behavior and the Social Environment I (Sp, Fa). 3 Hours.**

Provides a conceptual framework for knowledge of human behavior and the social environment with a focus on individuals. Social systems, life-course, assets, and resiliency-based approaches are presented. Special attention is given to the impact of discrimination and oppression on the ability to reach or maintain optimal health and well-being. Prerequisite: COMM 1313, PSYC 2003, SOCI 2013, SCWK 2133, and SCWK 3193 and (BIOL 1543 and BIOL 1541L, or ANTH 1013 and ANTH 1011L).

**SCWK 4103. Human Behavior and the Social Environment II (Sp, Fa). 3 Hours.**

This course applies the basic framework for creating and organizing knowledge of human behavior and the social environment acquired in HBSE I to the understanding of family, group, organizational, community, and global systems. Attention is given to discrimination, oppression, the impact of technology, and poverty at each system level. Prerequisite: SCWK 4093 and SCWK 4153.

**SCWK 4143. Addiction and the Family (Irregular). 3 Hours.**

Introduction to the biophysical basis of chemical and behavior compulsions with special focus on family impacts. Childhood development within addictive families is also examined. Social work intervention with substance abusing families is highlighted.

**SCWK 4153. Social Welfare Policy (Sp, Fa). 3 Hours.**

Describes and analyzes the policies and services rendered by local, state, regional, national, and international agencies as well as the policy implications for social work practice. Students prepare to advocate social policy changes designed to improve social conditions, promote social and economic justice, and to empower at-risk populations. Prerequisite: COMM 1313, PLSC 2003, SCWK 2133, and SCWK 3193.

**SCWK 4163. African American Perspectives of Trauma, Loss, and Recovery (Fa). 3 Hours.**

Explores dimensions of trauma, loss, and recovery within the lived experiences of African American individuals, families, and communities in the United States. Prerequisite: Junior standing or instructor consent. This course is cross-listed with AAST 4163.

**SCWK 4173. Social Work with African American Families (Irregular). 3 Hours.**

An overview of historical and contemporary issues of African American families using culturally competent and strengths based frameworks. Focuses on the Black family as a social institution. Covers current trends affecting Black families, historical influences, evaluation of social policies, and programs of today. Prerequisite: Junior standing or instructor consent. This course is cross-listed with AAST 4173.

**SCWK 4183. Social Work With Elders (Irregular). 3 Hours.**

Survey of theories of gerontology, service programs and unmet needs of the aging citizen.

**SCWK 4233. Seminar: Children and Family Services (Irregular). 3 Hours.**

An examination of selected current issues in the field of children and family services through discussion, individual study, and interaction with professionals in the field.

**SCWK 4333. Social Work Practice I (Sp, Fa). 3 Hours.**

This is the first in the sequence of practice courses introducing students to the generalist approach to micro social work. This course focuses on developing a solid foundation for practice with individuals, including learning basic communication and helping skills, values, principles, and the connection of theory to practice. Pre- or Corequisite: SCWK 4103. Prerequisite: SCWK 4093 and SCWK 4153.

**SCWK 4343. Social Work Practice II (Sp, Fa). 3 Hours.**

This is the second course in the social work practice sequence, emphasizing theories, models, and techniques related to generalist practice with families and groups. The course elaborates on system theory as it impacts groups and families, and use of experiential teaching methods. Prerequisite: SCWK 4103 and SCWK 4333.

**SCWK 4412. Field Seminar I (Sp, Su, Fa). 2 Hours.**

An integrative seminar to assist students in comparing their practice experiences, integrating knowledge acquired in the classroom, and expanding knowledge beyond the scope of the practicum setting. Corequisite: SCWK 4434 and social work majors only.

**SCWK 4422. Field Seminar II (Sp, Su, Fa). 2 Hours.**

An integrative seminar to assist students in comparing their practice experiences, integrating knowledge acquired in the classroom, and expanding knowledge beyond the scope of the practicum setting. Corequisite: SCWK 4444. Prerequisite: SCWK majors only.

**SCWK 4434. Social Work Internship I (Sp, Su, Fa). 4 Hours.**

Arranged in connection with social service agencies. Credit is based on completion of all course objectives, including a minimum of 225 hours of field work under the supervision of a licensed social worker. Corequisite: SCWK 4412. Prerequisite: Social work major, SCWK 4073, SCWK 4103, and SCWK 4333.

**SCWK 4444. Social Work Internship II (Sp, Su, Fa). 4 Hours.**

Arranged in connection with social service agencies. Credit is based on completion of all course objectives, including a minimum of 225 hours of field work under the supervision of a licensed social worker. Corequisite: SCWK 4422. Prerequisite: SCWK majors only, SCWK 4343, SCWK 4733 and SCWK 4434.

**SCWK 4733. Social Work Practice III (Sp, Fa). 3 Hours.**

Students acquire and practice the skills, knowledge, and values necessary for culturally competent generalist social work practice with organizations and communities. Special attention is given to the implications of discrimination and oppression for attaining social and economic justice. Pre- or Corequisite: SCWK 4103 and SCWK 4343. Prerequisite: SCWK 4333.

**SCWK 496V. Independent Study (Irregular). 1-6 Hour.**

Independent Study designed to meet the particular needs of individual students. May be repeated for up to 6 hours of degree credit.

**SCWK 5003. Foundations of Culturally Competent Social Work Practice (Fa). 3 Hours.**

The purpose of this course is the acquisition and demonstration of beginning graduate-level social work values and ethics, knowledge, and skills necessary for cultural competence in work with individuals, families, groups, organizations, communities, and global contexts. A multi-systems life-course conceptual framework is used. Prerequisite: Admission to the two-year or part-time MSW program.

**SCWK 5013. Bridge Course: Evidenced Based Social Work (Su). 3 Hours.**

This course prepares MSW students to transition from the foundation course to the advanced concentration courses. Students will become familiar with the mission and conceptual framework underlying the advanced concentration and develop beginning knowledge of traditional and alternative approaches to client system assessment. Prerequisite: Admission into the advanced standing MSW program or completion of foundation courses.

**SCWK 5073. Social Work Research and Technology II (Fa). 3 Hours.**

This course is intended to build the advanced research skills necessary to develop a research proposal and complete a thesis or capstone project. Students will plan the project, collect and analyze data and write a research report of their findings. Projects will focus on systematic evaluation of service delivery and personal professional practice. Corequisite: SCWK 6000L. Prerequisite: Completion of year one for two-year students or summer semester for advanced standing students.

**SCWK 5143. Global Social and Economic Justice and Oppression (Irregular). 3 Hours.**

The role and responsibilities of the social work profession are examined in an international comparative context. Particular emphasis is given to social workers' responsibilities to advance global social and economic justice and reduce human oppression through community, social, economic, and organizational development strategies. Prerequisite: SCWK 5003 or SCWK 5013.

**SCWK 5153. Children, Youth, and Family (Irregular). 3 Hours.**

This course focuses on the development, revision, and impact of policy and practice in children, youth, and family services. Current issues in policy and practice will be examined. Students will interact with community agencies and utilize class assignments to advocate improvements in current policy and practice. Prerequisite: SCWK 5003 or SCWK 5013.

**SCWK 5163. Social Work Management, Administration and Supervision (Irregular). 3 Hours.**

This course develops advanced skills in management, administration, and supervision in social work organizations. Emphasis is placed on developing leadership skills in ethics, budgeting, finance, resource development, information management, evaluation, staff hiring, supervision and development, and the use of technology in organizational leadership, development, and maintenance. Prerequisite: Graduate standing and SCWK 5003 or SCWK 5013.

**SCWK 5173. Advanced Practice with Families and Couples (Irregular). 3 Hours.**

The purpose of this course is to provide advanced understanding of the knowledge, skills and values needed to assess and intervene effectively with traditional and non-traditional families and couples. The course will examine social systems and life-course strengths approaches to understand how families and couples function. Students will design interventions. Prerequisite: SCWK 5003 or SCWK 5013.

**SCWK 5183. Advanced Practice with Individuals (Irregular). 3 Hours.**

This course develops advanced skills in social work practice on a micro level. Students learn to analyze and compare practice models. They gain skills in selecting a practice model and integrating multiple models based on client needs. Prerequisite: SCWK 5003 or SCWK 5013.

**SCWK 5193. Advanced Practice and Policy in Aging (Irregular). 3 Hours.**

This course focuses on social work practice with, and policies for, older persons. Current, past, and future practices and policies for older persons across systems and the life course are explored. Emphasis is placed on the influences of personal, social, economic, and cultural diversity on the well-being of older persons. Prerequisite: SCWK 5003 or SCWK 5013.

**SCWK 5213. Advanced Practice in Behavioral and Mental Health (Irregular). 3 Hours.**

This advanced course prepares students to identify mental disorders, plan intervention strategies with clients from a strengths perspective, and understand mental health programs through which services are delivered. Differential diagnosis and the impact of socioeconomic status, gender, race, and sexual orientation on diagnosis and treatment decisions are addressed. Prerequisite: SCWK 5003 or SCWK 5013.

**SCWK 5253. Spirituality and Social Work Practice (Sp, Fa). 3 Hours.**

This course prepares students to respond competently and ethically to diverse spiritual and religious perspectives. Utilizing social work ethics and values as a guide, students will develop a comparative, critically reflective approach to practice. Prerequisite: SCWK 4103 or SCWK 5003 or SCWK 5013.

**SCWK 5343. Advanced Practice with Groups (Irregular). 3 Hours.**

This course provides advanced knowledge, skills, and values needed to assess and intervene effectively with populations seen in the social work practice of group therapy. This course examines group dynamics, life-course and strengths perspectives, and client-centered assessment of needs and their application in agency settings. Prerequisite: SCWK 5003 or SCWK 5013.

**SCWK 5412. Foundation Field Seminar (Sp). 2 Hours.**

A required course for MSW students without an accredited undergraduate degree in social work. The purpose of the seminar is to allow students to integrate classroom content with experiences in the field, to learn peer supervision and consultation, and to learn from the experiences of other students in the field. Corequisite: SCWK 5434.

**SCWK 5434. Foundation Field Internship (Sp). 4 Hours.**

This course is required of all graduate students entering the MSW program without an accredited undergraduate degree in social work. Minimum of 330 clock hours of agency-based professional social work practicum experience, supervised by a licensed MSW, is required. Corequisite: SCWK 5412. Prerequisite: SCWK 5003, SCWK 4333, SCWK 4073, SCWK 4093, and SCWK 4153.

**SCWK 5442. Field Seminar III (Su). 2 Hours.**

This seminar is required of all graduate students entering the MSW program with advanced standing. Students integrate classroom content with experiences in the field, learn peer supervision and consultation, and learn from the experience of other students in the field. Corequisite: SCWK 5444. Prerequisite: Admission to graduate program with advanced standing.

**SCWK 5444. Field Internship III (Su). 4 Hours.**

This course is required of all graduate students entering the MSW program with advanced standing. A minimum of 240 clock hours of agency-based professional social work practicum experience, supervised by a licensed MSW, is required. Corequisite: SCWK 5442. Prerequisite: Admission to graduate program with advanced standing.

**SCWK 596V. Independent Study (Irregular). 1-6 Hour.**

Independent study designed to meet the particular needs of individual graduate students. May be repeated for up to 6 hours of degree credit.

**SCWK 6000L. Thesis Laboratory (Sp, Su, Fa). 0 Hours.**

This laboratory is required for completion of the thesis, which is developed through components of the graduate Research & Technology sequence. Other courses in the graduate curriculum provide support for the conceptualization and development of the thesis. This laboratory is taken in conjunction with SCWK 5073. Corequisite: SCWK 5073.

**SCWK 6003. Advanced Social Work Practice Using the MSLC Perspective (Fa). 3 Hours.**

Advanced Social Work Practice Using the Multi-Systems Life Course (MSLC) perspective teaches advanced practice behaviors with individuals, families, groups, organizations, and communities. This course focuses on integrating the arenas of advanced theory, research, policy practice, direct practice, required competencies and advanced practice behaviors using the MSLC perspective. Prerequisite: Admission into the advanced standing MSW program or completion of foundation courses.

**SCWK 6233. Advanced Social Work Practice With Children And Youth Using the MSLC Perspective (Sp). 3 Hours.**

This course focuses on the development, revision, and impact of practice with children and youth from a Multi-Systems Life Course (MSLC) perspective. Historical trends as well as current practices will be examined with a focus on learning and improving social work practice skills. Prerequisite: SCWK 6003.

**SCWK 6243. Advanced Social Work Practice With Adults Using the MSLC Perspective (Sp). 3 Hours.**

This course focuses on the development, revision, and impact of practice with adults from a Multi-Systems Life Course (MSLC) perspective. Historical trends as well as current practices will be examined with a focus on learning and improving social work practice skills. Prerequisite: SCWK 6003.

**SCWK 6442. Advanced Field Seminar I (Fa). 2 Hours.**

The first of two advanced field seminars required of all students in the MSW program. The purpose of the seminar is to allow students to integrate classroom content with experiences in the field, to practice peer supervision and consultation, and to learn from the experiences of other students in the field. Corequisite: SCWK 6444. Prerequisite: SCWK 5412 or SCWK 5442.

**SCWK 6444. Advanced Field Internship I (Fa). 4 Hours.**

This is the first of two advanced field internships required of all graduate students in the MSW program. A minimum of 330 clock hours of agency-based professional social work practicum experience, supervised by a licensed MSW, is required. Corequisite: SCWK 6442. Prerequisite: SCWK 5434 or SCWK 5444.

**SCWK 6452. Advanced Field Seminar II (Sp). 2 Hours.**

This is the second of two advanced field seminars required of all students in the MSW program. The purpose of the seminar is to allow students to integrate classroom content with experiences in the field, to demonstrate peer supervision and consultation, and to learn from the experiences of other students in the field. Corequisite: SCWK 6454. Prerequisite: SCWK 6442.

**SCWK 6454. Advanced Field Internship II (Sp). 4 Hours.**

This is the second of two advanced Field Internship courses required of all graduate students in the MSW program. A minimum of 330 clock hours of agency-based professional social work practicum experience supervised by a licensed MSW is required. Corequisite: SCWK 6452. Prerequisite: SCWK 6442.

## Sociology (SOCI) Courses

**SOCI 2013. General Sociology (ACTS Equivalency = SOCI 1013) (Sp, Su, Fa). 3 Hours.**

Applies a sociological perspective and develops critical thinking. Focuses on culture, identity, race, ethnicity, gender, class inequality, crime, deviance, globalization, social change, and social institutions. Overview of sociological theories and methods for systematic understanding of society.

**SOCI 2013H. Honors General Sociology (Sp, Su, Fa). 3 Hours.**

Develops critical thinking, writing, and research skills by applying a sociological perspective. Focuses on culture, identity, race, ethnicity, gender, class inequality, collective behavior, crime, deviance, globalization, social change, and social institutions. Overview of sociological theories and methods for systematic understanding of society.

This course is equivalent to SOCI 2013.

**SOCI 2033. Social Problems (ACTS Equivalency = SOCI 2013) (Irregular). 3 Hours.**

Sociological analysis of major social problems, with emphasis placed on social justice, poverty and economic inequality, racial and ethnic relations, gender, crime, education, and other contemporary issues. Develops critical thinking.

**SOCI 3023. Criminology (Sp, Fa). 3 Hours.**

Advanced survey of theories of crime causation. Examines broad sociological paradigms, as well as both individual and aggregate-level explanations of crime causation. Applies criminological theories to contemporary issues associated with crime and criminal justice. Prerequisite: SOCI 2013 and junior standing.

This course is cross-listed with CMJS 3023.

**SOCI 3023H. Honors Criminology (Sp, Fa). 3 Hours.**

Advanced survey of theories of crime causation. Examines broad sociological paradigms, as well as both individual and aggregate-level explanations of crime causation. Applies criminological theories to contemporary issues associated with crime and criminal justice. Prerequisite: SOCI 2013, honors and junior standing. This course is cross-listed with CMJS 3023, SOCI 3023.

**SOCI 3053. Serial Crime (Irregular). 3 Hours.**

Exploration of the historical development of criminal profiling related to serial homicide, serial sex crimes, serial stalking, and serial arson. Examination of behavioral and criminological theories, focusing on different profiling techniques and their strengths and challenges. Case studies and published research on serial crime will be used whenever possible. Prerequisite: SOCI 2013. This course is cross-listed with CMJS 3053.

**SOCI 3063. Victimology (Sp, Fa). 3 Hours.**

Introduction to the scientific study of victimization. Examines conceptual boundaries of victimology research, covers theories, statistics and trends relevant to victimology; reviews the victim blaming and defending perspectives; explores practical applications of victimology, and evaluates the social, legal, and criminological issues that stem from concern over victims. Prerequisite: SOCI 2013. This course is cross-listed with CMJS 3063.

**SOCI 3103. Religion and Society (Irregular). 3 Hours.**

Theories and research on: religious symbols and rituals, becoming and staying religious, the formation and maintenance of religious organizations, religion and social inequality, religion and social change, and globalization.

**SOCI 3153. Urban Sociology (Irregular). 3 Hours.**

Examines growth of cities, urban inequalities, politics, social movements, built environment, ecology, sustainability, cultural identity, global cities, and immigration. Implications considered for policy and planning. Prerequisite: SOCI 2013.

**SOCI 3173. Latinos, Migration, and the U.S. South (Fa). 3 Hours.**

Examines social, economic, and population changes in the U.S. South, including shift of Latinos' settlement patterns, actions taken by policy makers to adapt to new demographic context, and mechanisms immigrants use to facilitate their induction into the southern community. Prerequisite: SOCI 2013.

**SOCI 3193. Race, Class, and Gender in America (Sp, Fa). 3 Hours.**

A critical examination of the layers of the U.S. society that shape and construct social inequalities. Overview of sociological theories and research on how race, class, and gender function separately and in tandem to organize systems of inequality. Prerequisite: SOCI 2013 and junior standing.

**SOCI 3193H. Honors Race, Class, and Gender in America (Sp, Fa). 3 Hours.**

A critical examination of the layers of the U.S. society that shape and construct social inequalities. Overview of sociological theories and research on how race, class, and gender function separately and in tandem to organize systems of inequality. Prerequisite: Honors candidacy, SOCI 2013 or SOCI 2013H and junior standing.

This course is equivalent to SOCI 3193.

**SOCI 3203. Corrections (Sp, Fa). 3 Hours.**

Overview of correctional systems and punishment. Focuses on theories of correctional philosophies, practices, and procedures, along with the historical development and modern practices of corrections, sentencing, facilities, and issues facing correctional populations. Also examines principles and practices of treatment and rehabilitation in correctional settings. Prerequisite: CMJS 2003.

This course is cross-listed with CMJS 3203.

**SOCI 3223. Social Psychology (Sp, Fa). 3 Hours.**

A sociological approach to the study of the interaction between society and the self with an emphasis upon reference groups such as the family, friends, work, lifestyle, and deviance. Prerequisite: SOCI 2013 and junior standing.

**SOCI 3263. Families and Social Change (Sp). 3 Hours.**

A sociological analysis of the diversity and inequality that exists among families, and the ways in which families have and continue to change over time. Topics discussed include sex, gender, and sexuality, race, ethnicity, and immigration, class and economic transformations. Prerequisite: SOCI 2013.

**SOCI 3273. Sociology of China (Irregular). 3 Hours.**

Examines many aspects of Chinese people, their cultures, and practices, and also looks at Chinese Americans in the U.S. both historically and currently. Prerequisite: SOCI 2013.

**SOCI 3301L. Social Data and Analysis Laboratory (Sp, Fa). 1 Hour.**

The lab is an extension of the lecture in SOCI 3303. Using a variety of computer packages, the lab provides practical experience in managing and analyzing social data. Corequisite: SOCI 3303.

**SOCI 3301M. Honors Social Data and Analysis Laboratory (Sp, Fa). 1 Hour.**

The lab is an extension of the lecture in SOCI 3303. Using a variety of computer packages, the lab provides practical experience in managing and analyzing social data. Corequisite: SOCI 3303H. Prerequisite: Honors candidacy.

**SOCI 3303. Social Data and Analysis (Sp, Fa). 3 Hours.**

Introduction to descriptive and inferential statistics, with special emphasis on common techniques in social research. Course focuses on the practical usage of data and application to real-world issues. Corequisite: SOCI 3301L. Prerequisite: SOCI 2013 and junior standing.

**SOCI 3303H. Honors Social Data and Analysis (Sp, Fa). 3 Hours.**

Introduction to descriptive and inferential statistics, with special emphasis on common techniques in social research. Course focuses on the practical usage of data and application to real-world issues. Corequisite: SOCI 3301L. Prerequisite: Honors candidacy, SOCI 2013 and junior standing. This course is equivalent to SOCI 3303.

**SOCI 3313. Social Research (Sp, Fa). 3 Hours.**

Study and experience in implementing a methodological "toolbox," including theorizing, designing, measuring, sampling, collecting, interpreting, and reporting empirical results for real-world social research applications. Prerequisite: SOCI 2013 and junior standing.

**SOCI 3313H. Honors Social Research (Sp, Fa). 3 Hours.**

Study and experience in implementing a methodological "toolbox," including theorizing, designing, measuring, sampling, collecting, interpreting, and reporting empirical results for real-world social research applications. Prerequisite: Honors candidacy, SOCI 2013 and junior standing. This course is equivalent to SOCI 3313.

**SOCI 3413. Special Topics (Irregular). 3 Hours.**

Offerings vary; check for particular course topics offered. Designed to cover specialized topics in greater depth than regular survey courses provide. Prerequisite: SOCI 2013. May be repeated for up to 6 hours of degree credit.

**SOCI 3413H. Honors Special Topics (Irregular). 3 Hours.**

Offerings vary; check for particular course topics offered. Designed to cover specialized topics in greater depth than regular survey courses provide. Prerequisite: Honors candidacy and SOCI 2013 or SOCI 2013H. May be repeated for up to 6 hours of degree credit. This course is equivalent to SOCI 3413.

**SOCI 3423. Social Theory (Sp, Fa). 3 Hours.**

Examines the philosophical underpinnings of sociology; introduces notable classical and contemporary social theorists; develops an appreciation for the ways classical works continue to form the basis for contemporary social thought. Prerequisite: SOCI 2013 and junior standing.

**SOCI 3423H. Honors Social Theory (Sp, Fa). 3 Hours.**

Examines the philosophical underpinnings of sociology; introduces notable classical and contemporary social theorists; develops an appreciation for the ways classical works continue to form the basis for contemporary social thought. Prerequisite: Honors standing, junior standing and SOCI 2013. This course is equivalent to SOCI 3423.

**SOCI 3513. Criminal Evidence (Fa). 3 Hours.**

Examination of how evidence is collected, processed, and presented in court, with an emphasis on the competing interests of crime control and individual liberties. Prerequisite: CMJS 2003. This course is cross-listed with CMJS 3513.

**SOCI 3723. Deviant Behavior (Sp, Fa). 3 Hours.**

Sociological overview of disconcerting conduct: its definition, theoretical understandings and research. Specific topics may include: interpersonal violence, self-destructive disorders, controversial lifestyles, substance abuse, as well as the relationship between inequality and disturbing acts. Prerequisite: SOCI 2013. This course is cross-listed with CMJS 3723.

**SOCI 399VH. Honors Course (Sp, Fa). 1-6 Hour.**

Prerequisite: junior standing. May be repeated for up to 12 hours of degree credit.

**SOCI 4003. Internship in Sociology (Sp, Su, Fa). 3 Hours.**

(Formerly SOCI 4006) Supervised experience in municipal, county, or state agencies, or any other agency which is approved by the instructor. Prerequisite: SOCI 2013. May be repeated for up to 6 hours of degree credit.

**SOCI 4013. Special Topics in Sociology (Sp, Fa). 3 Hours.**

Offerings vary; check for particular course topics offered. Designed to cover specialized topics in greater depth than regular survey courses provide. Prerequisite: SOCI 2013. May be repeated for up to 6 hours of degree credit.

**SOCI 4013H. Honors Special Topics in Sociology (Sp, Fa). 3 Hours.**

Offerings vary; check for particular course topics offered. Designed to cover specialized topics in greater depth than regular survey courses provide. Prerequisite: Honors candidacy and SOCI 2013 or SOCI 2013H. May be repeated for up to 6 hours of degree credit. This course is equivalent to SOCI 4013.

**SOCI 403V. Individual Study in Sociology (Sp, Su, Fa). 1-3 Hour.**

In-depth individual or group study with a faculty member on advanced sociological readings and/or participation in supervised research as an experience-based course. Faculty permission required in advance of enrollment. May be repeated for up to 6 hours of degree credit.

**SOCI 4043. Seminar in Sociology (Sp, Fa). 3 Hours.**

Capstone course in sociology. Prerequisite: Senior standing.

**SOCI 4063. Organizations in Society (Sp). 3 Hours.**

Review of literature on work and organizations, with focus on race, class, gender inequalities, and interactions between society and organizations; discussion of topics related to white collar crime and deviant behavior inside modern corporations. Prerequisite: SOCI 2013.

**SOCI 4113. Terrorism and Social Control (Sp). 3 Hours.**

Examines the evolution of modern terrorism, efforts to counter its growth, temporal and spatial patterns of precursor conduct, and the investigation, indictment, prosecution, and punishment of terrorists in federal courts. Focuses primarily upon American terrorist groups (ideologies, motives, group characteristics, and tactics). Prerequisite: CMJS 2003. This course is cross-listed with CMJS 4113.

**SOCI 4153. Race and Society (Fa). 3 Hours.**

Sociological study of race within the U.S., with an emphasis on understanding how race operates within contemporary social institutions. Critical engagement and discussion of topics relating to race will be encouraged. Prerequisite: SOCI 2013 or AAST 1003 or AAST 2023. This course is cross-listed with AAST 4153.

**SOCI 4183. Social Network Analysis (Fa). 3 Hours.**

Introduces the fundamentals of Social Network Analysis (SNA), and its applications for research in various social science fields. Prerequisite: SOCI 2013. This course is cross-listed with PLSC 4613.

**SOCI 4603. Environmental Sociology (Sp). 3 Hours.**

The course provides a social perspective on environmental issues. It examines the linkage between society, ecological systems and the physical environment. It provides conceptual framework(s) for analyzing environmental issues, considers the role of humans in environmental issues, and enhances understanding the complexity of the relationship between societal organization and environmental change. Prerequisite: Junior or above standing. This course is cross-listed with HDFS 4603, SUST 4603.

**SOCI 5001. Proseminar (Fa). 1 Hour.**

An informal forum for graduate students and faculty to present and discuss ongoing research interests as well as the current state of the discipline. Prerequisite: Graduate standing.

**SOCI 500V. Advanced Problems in Sociology (Sp, Su, Fa). 1-3 Hour.**

Individual research on problems or problem areas. Prerequisite: Graduate standing.

**SOCI 5013. Advanced Social Research (Fa). 3 Hours.**

An examination of experimental and quasi-experimental designs used in the analysis of sociological data with focus upon appropriate units of analysis and design selection, sampling, interview techniques, and questionnaire construction. Prerequisite: Graduate standing or instructor consent.

**SOCI 503V. Special Topics (Irregular). 1-6 Hour.**

Designed to cover specialized topics not usually presented in depth in regular courses. Prerequisite: Graduate Standing. May be repeated for up to 6 hours of degree credit.

**SOCI 5043. Public Policy, Children and Families (Irregular). 3 Hours.**

The study of the impact of public policy on children and families, and the ways in which policies are created, modified, and changed. Includes the history of public policy concerning children and families. Prerequisite: Graduate standing.

**SOCI 5083. Applied Qualitative Research (Fa). 3 Hours.**

An introduction to research strategies including intensive interviewing, participant observational fieldwork, content analysis, historical analysis, and comparative research. Emphasis on the practical aspects of designing and executive research involving multiple methods of data gathering and analysis. Prerequisite: Graduate standing.

**SOCI 5113. Seminar in Social Inequality (Irregular). 3 Hours.**

Major theories of stratification; types of stratification systems, comparisons of modern and traditional systems; emergent trends. Prerequisite: Graduate standing.

**SOCI 5133. The Community (Irregular). 3 Hours.**

A sociological analysis of the theory, methods and materials used in the study of the community. Prerequisite: Graduate standing.

**SOCI 5153. Sociological Perspective on Social Psychology (Irregular). 3 Hours.**

Principles, concepts and methods used in analyzing effects of social structures and processes on the self and interaction. Topics include exchange theory, role analysis, symbolic interactionism, social construction of reality, socialization, interpersonal competence, organizational and leadership development, social dislocation, and stress. Prerequisite: Graduate standing.

**SOCI 5233. Theories of Deviance (Irregular). 3 Hours.**

A survey of major theories-classical, developmental, ecological, functionalist, conflict, subcultural, control, and phenomenological-explaining morally condemned differences in society. Particular emphasis is on practical implications of each perspective for policy and social control. Prerequisite: Graduate standing.

**SOCI 5253. Classical Social Theory (Fa). 3 Hours.**

A survey of social theory up to the late 20th century. An introduction to the classical sociological themes that continue to inform research, analysis, and policy formation. Major issues will include the relationship between the individual and the community, and the sources of stability, conflict, and change. Prerequisite: Graduate standing.

**SOCI 5263. Contemporary Social Theory (Sp). 3 Hours.**

Analysis of contemporary social theories & major theoretical debates. Emphasis is on critical evaluation & application of theoretical perspectives to current social issues affecting families and communities. Prerequisite: Graduate standing.

**SOCI 5311L. Applied Data Analysis Laboratory (Sp). 1 Hour.**

Provides instruction for data transformations required for the advanced statistical procedures used in the Statistical Package for the Social Sciences (SPSS). Also provides instruction in the use of advanced statistical procedures covered in SOCI 5313. Prerequisite: Graduate standing.

**SOCI 5313. Applied Data Analysis (Sp). 3 Hours.**

Covers basic concepts and applications of the general linear model to a variety of sociological research issues and problems. Also provides an introduction to binary dependent and multivariate categorical data analysis for sociological research. Prerequisite: Graduate standing. Familiarity with statistical computer programs is assumed.

**SOCI 5413. Seminar in Criminological Theory (Sp). 3 Hours.**

An examination of the causation of crime, focusing primarily on sociological theories. Prerequisite: Graduate standing.

**SOCI 5423. Research in Criminology (Fa). 3 Hours.**

Examination of empirical research in criminology, focusing on methodological problems, strategies, and findings. Prerequisite: Graduate standing.

**SOCI 5433. Victimization (Irregular). 3 Hours.**

Study of the causes, correlates, and consequences of victimization, focusing on theories of victimization and the role of victims in the criminal justice system. Prerequisite: Graduate standing.

**SOCI 5443. Seminar in Terrorism (Irregular). 3 Hours.**

Examination of the causes and consequences of terrorism. Prerequisite: Graduate standing.

**SOCI 5453. Social Control (Irregular). 3 Hours.**

Study of sociological theories and research on formal social control, primarily institutional responses to criminal behavior. Prerequisite: Graduate standing.

**SOCI 5463. White Collar Crime (Irregular). 3 Hours.**

Study of the nature of white collar, professional, and corporate crime. Prerequisite: Graduate standing.

**SOCI 5473. Crime and Community (Irregular). 3 Hours.**

Examination of how neighborhood structural characteristics and social organization affect crime, as well as how the presence of crime and disorder in a community can affect neighborhood social organization. Prerequisite: Graduate standing.

**SOCI 5503. Research Internship (Sp, Su, Fa). 3 Hours.**

Supervised research experience. Prerequisite: Graduate standing.

**SOCI 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Master's Thesis. May be repeated for degree credit.

## Southern Studies (SOST) Courses

**SOST 2003. Introduction to Southern Studies (Odd years, Fa). 3 Hours.**

A three credit hour interdisciplinary course that explores the history, politics, literature, and culture of the U.S. South from the colonial era to the present. Students who minor in Southern Studies will be required to take Introduction to Southern Studies.

**SOST 399V. Special Topics in Southern Studies (Irregular). 1-3 Hour.**

Topics that explore the American South which are not usually presented in depth in regular courses. May be repeated for up to 6 hours of degree credit.

## Space and Planetary Sciences (SPAC) Courses

**SPAC 300V. Space & Planetary Sciences Research (Irregular). 1-3 Hour.**

This course covers research in space and planetary sciences performed by undergraduate students in the University. Prerequisite: Junior Standing and Instructor Consent. May be repeated for up to 6 hours of degree credit.

**SPAC 3923H. Honors Colloquium (Irregular). 3 Hours.**

Covers special topics in the space and planetary sciences. Not restricted to any particular major. Prerequisite: Honors candidacy or permission of the instructor. May be repeated for up to 6 hours of degree credit.

**SPAC 5033. Stars and Planetary Systems (Odd years, Fa). 3 Hours.**

Stellar structure and evolution, the properties of the solar system, and extrasolar planetary systems.

**SPAC 5111L. Space and Planetary Lab (Fa). 1 Hour.**

Laboratory course in space and planetary sciences consisting of experiments in the five major areas of space and planetary sciences: planetary astronomy, planetary geology, planetary atmospheres, origin and evolution of life and orbital mechanics and astronautics. Intended for students enrolled in the graduate programs in space and planetary sciences.

**SPAC 5123. Internship (Sp, Fa). 3 Hours.**

Internship for graduate students in the space and planetary sciences graduate degree programs and concentrations in the graduate programs in physics, biology, geosciences and mechanical engineering. Students conduct a phase of their research, normally for one month, at a national or industrial laboratory in North America or overseas.

**SPAC 5161. Seminar (Sp, Fa). 1 Hour.**

Seminars organized by the Arkansas-Oklahoma Center for Space and Planetary Sciences covering topics on the cutting edge of research in the field for graduate students conducting research with a faculty member in the space and planetary sciences as part of their graduate degree programs or concentrations in the graduate programs in physics, biology, geology, geography and mechanical engineering.

**SPAC 5211. SPAC Proseminar (Sp). 1 Hour.**

Introductory course consisting of discourses and case studies in ethics, communications and public policy in the administration of space and planetary sciences. Prerequisite: Admission to program or instructor consent.

**SPAC 5313. Planetary Atmospheres (Irregular). 3 Hours.**

Origins of planetary atmospheres, structures of atmospheres, climate evolution, dynamics of atmospheres, levels in the atmosphere, the upper atmosphere, escape of atmospheres, and comparative planetology of atmospheres.

**SPAC 5413. Planetary Geology (Even years, Sp). 3 Hours.**

Exploration of the solar system, geology and stratigraphy, meteorite impacts, planetary surfaces, planetary crusts, basaltic volcanism, planetary interiors, chemical composition of the planets, origin and evolution of the Moon and planets.

**SPAC 5513. Biochemical Evolution (Odd years, Sp). 3 Hours.**

Abiotic synthesis of biomolecules on Earth, the origin of cells; genetic information, origin of life on Earth and elsewhere, evolution and diversity, ecological niches, bacteria, archaea, and eukaryotic, novel metabolic reshaping of the environment, life being reshaped by the environment, molecular data, and evolution. Prerequisite: CHEM 5813.

**SPAC 5553. Astrobiology (Even years, Sp). 3 Hours.**

Discusses the scientific basis for the possible existence of extraterrestrial life. Includes origin and evolution of life on Earth, possibility of life elsewhere in the solar system (including Mars), and the possibility of life on planets around other stars. Prerequisite: Instructor consent. This course is cross-listed with BIOL 5553.

**SPAC 5613. Astronautics (Irregular). 3 Hours.**

Study of spacecraft design and operations. Prerequisite: Admission to program or instructor consent.

**SPAC 600V. Master's Thesis (Sp, Su, Fa). 1-10 Hour.**

Master's thesis. May be repeated for degree credit.

**SPAC 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Doctoral dissertation. May be repeated for degree credit.

## Spanish (SPAN) Courses

**SPAN 1003. Elementary Spanish I (ACTS Equivalency = SPAN 1013) (Sp, Fa). 3 Hours.**

A first introduction of Spanish for true beginners--pronunciation, aural comprehension, speaking and reading in Spanish--with an objective towards active mastery of basic grammatical structures.

**SPAN 1013. Elementary Spanish II (ACTS Equivalency SPAN 1023) (Sp, Fa). 3 Hours.**

Elementary courses stress pronunciation, aural comprehension, and simple speaking ability, and lead to active mastery basic grammar and limited reading ability.

**SPAN 2003. Intermediate Spanish I (ACTS Equivalency = SPAN 2013) (Sp, Fa). 3 Hours.**

Intermediate courses lead to greater facility in spoken language and to more advanced reading skills.

**SPAN 2013. Intermediate Spanish II (ACTS Equivalency = SPAN 2023) (Sp, Fa). 3 Hours.**

Continued development of basic speaking comprehension and writing skills and intensive development of reading skills.

**SPAN 2013H. Honors Intermediate Spanish II (Sp, Fa). 3 Hours.**

Continued development of basic speaking comprehension and writing skills and intensive development of reading skills. This course is equivalent to SPAN 2013.

**SPAN 2123. Spanish for Heritage Speakers I (Irregular). 3 Hours.**

Designed for students from a Spanish-speaking background with limited to no formal study of the language. Literacy development in Spanish with emphasis on building vocabulary, plus reading and writing skills. Prerequisite: Students who have taken one year or less of Spanish. Placement by exam or by Spanish Advisor.

**SPAN 3003. Advanced Spanish (Sp, Fa). 3 Hours.**

Further intensive practice to strengthen written and oral expression. Includes a review of the essentials of Spanish grammar. Prerequisite: SPAN 2013 or equivalent.

**SPAN 3033. Conversation and Composition (Sp, Fa). 3 Hours.**

Three hours per week of guided conversation (oral) and composition (written) practice for the post-intermediate student. Prerequisite: SPAN 3003.

**SPAN 3063. Spanish Reading for Advanced Research (Irregular). 3 Hours.**

This course is designed for graduate students working toward reading proficiency for academic research in the target language. Students acquire skills for effective and efficient reading, including recognition of major syntactical structures and the proper use of reference tools. While this course has no prerequisites, 1-2 years of prior instruction in the language is recommended as a minimum. Successful completion fulfills graduate student reading proficiency requirement in many departments. No credit by advanced placement for lower level Spanish courses is awarded, and this course cannot be counted for credit towards an undergraduate minor or major in Spanish or a world language requirement.

**SPAN 3103. Cultural Readings (Sp, Fa). 3 Hours.**

A course designed to build vocabulary and to strengthen reading skills and oral expression through extensive practice with culturally authentic materials. Prerequisite: SPAN 2013 or equivalent.

**SPAN 3113. Introduction to Literature (Sp, Fa). 3 Hours.**

Further development of reading skills and introduction to literary commentary and analysis. Prerequisite: (SPAN 3003 and SPAN 3103) or equivalent.

**SPAN 3113H. Honors Introduction to Literature (Irregular). 3 Hours.**

Further development of reading skills and introduction to literary commentary and analysis. Prerequisite: Honors standing, SPAN 3003 and SPAN 3103.

**SPAN 3123. Spanish for Heritage Speakers II (Irregular). 3 Hours.**

Designed for students from a Spanish-speaking background with some formal training in Spanish and/or the ability to read and write in the language. Continue developing language skills, plus introduction to the U.S. Latino literature and culture. Prerequisite: Students who have taken two years of Spanish in High School, SPAN 2123 or placement exam.

**SPAN 3883. Translation and Interpretation I: Spa/Eng - Eng/Spa (Irregular). 3 Hours.**

Designed for learners who want to improve their proficiency in both Spanish and English while introducing translation and interpretation theory with hands-on practice. Prerequisite: SPAN 3003 and SPAN 3103, or instructor consent.

**SPAN 399VH. Honors Spanish Course (Sp, Fa). 1-6 Hour.**

Prerequisite: Junior standing. May be repeated for up to 12 hours of degree credit.

**SPAN 4003. Advanced Grammar (Fa). 3 Hours.**

For majors and advanced students covering the problematic areas of Spanish syntax and usage. Prerequisite: SPAN 3003 and SPAN 3103.

**SPAN 4103. Monuments of Spanish Literature I (Irregular). 3 Hours.**

Monuments of the major works of Spanish literature from El Cid through the 17th century. Prerequisite: SPAN 3113.

**SPAN 4113. Monuments of Spanish Literature II (Irregular). 3 Hours.**

Monuments of Spanish literature from the 18th century to the present. Prerequisite: SPAN 3113.

**SPAN 4123. Spanish for Heritage Speakers III (Irregular). 3 Hours.**

Continued development and expansion of Spanish writing skills. Special emphasis given to active grammar, textual production, and critical thinking for writing in academic and professional settings. Students' work involves research, reading, composing, delivering presentations, writing and proofreading different types of essays. Prerequisite: Students who have taken three or more years of Spanish in high school, AP Spanish, SPAN 3123 or placement exam.

**SPAN 4133. Survey of Spanish-American Literature I (Irregular). 3 Hours.**

Survey of Spanish-American literature from the Colonial period to mid-19th Century, including pre-Hispanic Indigenous Literatures. Prerequisite: SPAN 3113.

**SPAN 4193. Survey of Spanish-American Literature II (Irregular). 3 Hours.**

Survey of Spanish-American literature from Modernism to the present, including U.S. Latino literature. Prerequisite: SPAN 3113.

**SPAN 4213. Spanish Civilization (Irregular). 3 Hours.**

A wide-ranging exploration of Spanish history and culture from the Middle Ages to the present. Prerequisite: SPAN 3113.

**SPAN 4223. Latin American Civilization (Irregular). 3 Hours.**

Latin American civilization. Prerequisite: SPAN 3113.

**SPAN 4243. Literature and Culture in the Hispanic United States (Irregular). 3 Hours.**

An exploration of the history and culture, art and politics of the major Hispanic groups in the United States. Focus on contemporary attitudes and issues. Prerequisite: SPAN 3113.

**SPAN 4253. Latin American Cinema and Society (Irregular). 3 Hours.**

This course examines key issues in Latin American culture and history through films, documentaries, and literary and cultural texts. Topics included are: Human Rights, Ethnicity, Gender, Revisions of the past. Prerequisite: SPAN 3113.

**SPAN 4333. Business Spanish I (Sp, Fa). 3 Hours.**

Enhances ability to interact in Spanish-language business environments by providing a solid foundation in vocabulary and structure in functional business areas such as company structure, banking and accounting, capital investment, goods and services, marketing, finance, and import-export. Students commit to 15 hours during the semester to work on business-related projects with the Spanish-speaking community of Northwest Arkansas. Prerequisite: SPAN 3003 and SPAN 3103.

**SPAN 4553. Latin America Today (Irregular). 3 Hours.**

An exploration of recent and contemporary issues in Latin American culture and society, including social classes, ethnicity, urbanization, family, education, and religion, as well as popular culture and artistic movements. Prerequisite: SPAN 3113.

**SPAN 4563. Latino Youth Bilingual Service Learning Project (Irregular). 3 Hours.**

The Latino Youth Bilingual Project is a service learning course for students in Spanish and Latin American and Latino Studies. Readings on Latino education policies and challenges, bilingualism, and the immigrant experience. Students commit to 30 hours of service learning projects in local schools during the semester (in addition to class meeting times). Prerequisite: SPAN 3113 or SPAN 3123 or graduate standing.

**SPAN 4583. Advanced Spanish for Health Professions (Irregular). 3 Hours.**

Advanced Spanish for Health Professions is an upper level service learning course for students in Spanish and Latin American and Latino Studies. Development of Spanish language for healthcare providers. Readings on the state of Latino health care in Arkansas and in the United States. Students will work 30 hours during the semester on health related projects with the Spanish speaking community of NWA. Prerequisite: SPAN 3003 and SPAN 3103 or SPAN 3123.

**SPAN 4623. Advanced Proficiency in Spanish (Irregular). 3 Hours.**

Work in translation and composition, oral proficiency, and phonetics and pronunciation for students who still seek further practice in skills development to extend their fluency and proficiency in the second language. Suitable for non-native speaking students considering becoming teachers of Spanish. Prerequisite: SPAN 4003 or instructor consent.

**SPAN 470V. Special Topics (Irregular). 1-3 Hour.**

May be offered in a topic not specifically covered by courses otherwise listed. May be repeated for up to 6 hours of degree credit.

**SPAN 475V. Special Investigations (Sp, Fa). 1-6 Hour.**

May be repeated for degree credit.

**SPAN 4883. Indigenous Literatures of Mesoamerica, the Andes and the Amazon (Irregular). 3 Hours.**

A study of native oral narratives, literary texts and other writing forms in the Americas, from ancient times to the present, including the Andean Khipus, Mesoamerican Codices, and Amazonian mythic narratives. Prerequisite: SPAN 3113.

**SPAN 5203. Medieval Spanish Literature (Irregular). 3 Hours.**

From the 'Jarchas' to the Celestina.

**SPAN 5233. Golden Age Novel (Irregular). 3 Hours.**

Major works of Spanish prose fiction from the 16th and 17th centuries, with close reading of major works.

**SPAN 5243. Golden Age Poetry and Drama (Irregular). 3 Hours.**

History and development of those genres in the 16th and 17th centuries, with close reading of major works.

**SPAN 5253. Colonial Literature and Culture (Irregular). 3 Hours.**

An introductory course to the history, culture and literature of colonial Spanish America from 1492 until 1810. The course will cover representative colonial and indigenous texts and their contexts including Renaissance, Baroque, and travel literature of the Eighteenth Century. The course will be taught in Spanish.

**SPAN 5273. Survey of 19th Century Spanish Literature (Irregular). 3 Hours.**

A graduate-level survey of Spanish literature from Neoclassicism to the Generation of 1898.

**SPAN 5283. Nineteenth Century Drama and Poetry (Irregular). 3 Hours.**

From Romanticism to the Generation of 1898.

**SPAN 5343. Survey of 20th Century Spanish Literature (Irregular). 3 Hours.**

A graduate-level survey of Spanish literature from the Generation of 1898 to the Transition. Prerequisite: Graduate standing.

**SPAN 5393. 19th Century Spanish American Literature (Irregular). 3 Hours.**

Study of representative literary works from Independence (1810) to 1900's. The course covers Neoclassicism, Romanticism, Realism/Naturalism, and Modernism and the role of literature in the nation-building process. The course will be taught in Spanish.

**SPAN 5403. Spanish American Theatre (Irregular). 3 Hours.**

Historical examination of the theatre in Spanish America, with close analysis particularly of representative works and movements in the 20th century.

**SPAN 5433. Cervantes: Don Quijote (Irregular). 3 Hours.**

A close reading of Spain's greatest literary masterpiece.

**SPAN 5453. Cinema and Literature (Irregular). 3 Hours.**

This course examines several Latin American and Spanish texts and their film adaptations as well as the main film making trends in the Hispanic world.

**SPAN 5463. 20th Century Spanish American Literature (Irregular). 3 Hours.**

Critical survey of major movements and outstanding and representative works in 20th century prose and poetry, from the Mexican Revolution and the avant-garde to the contemporary boom and post-boom.

**SPAN 5703. Special Topics (Irregular). 3 Hours.**

May be offered in a subject not specifically covered by the courses otherwise listed. May be repeated for up to 6 hours of degree credit.

**SPAN 575V. Special Investigations (Irregular). 1-6 Hour.**

May be repeated for degree credit.

**SPAN 5773. Indigenismo Literature (Irregular). 3 Hours.**

A study of 'indigenismo', an intellectual and literary tradition in Latin America examining the history of exploitation and marginalization of indigenous peoples. Readings include texts by Mariategui, Icaza, Andrade, Asturias, Arguedas, Castellanos, and also 'indigenista' works in music and the plastic arts.



**SPAN 5883. Indigenous Literatures (Irregular). 3 Hours.**

A study of native oral narratives, literary texts and other writing forms in the Americas, from ancient times to the present, including the Andean Khipus, Mesoamerican Codices, and Amazonian mythic narratives.

**SPAN 5943. U.S. Latino/a Literatures and Cultures (Irregular). 3 Hours.**

Explores the construction and negotiation of Latino/a identities through the study of literary and filmic texts. Theoretical concepts (e.g. latinidad, latinization, intra-latino, cultural remittances) will also be studied. Topics of discussion may include: transnationalism, bilingualism, and interactions between different Latino groups. Taught in Spanish. Prerequisite: Graduate standing.

## Special Education (SPED)

### Courses

**SPED 3843. Introduction to Learning and Behavior Analysis (Fa). 3 Hours.**

This course provides information on: (a) the philosophical assumptions and principles of behavior analysis; (b) systems, processes, and concepts of the experimental and applied behavior analysis; and (c) the ethical and legal issues in its use.

**SPED 3893. Field Experience in Applied Behavior Analysis (Sp, Fa). 3 Hours.**

Supervised field experience in program, schools, and other settings using the methodology of applied behavior analysis. Prerequisite: SPED 3843. May be repeated for up to 9 hours of degree credit.

**SPED 4413. ABA and Classroom Management for Teachers (Fa). 3 Hours.**

Students in this course will develop an understanding of the basic principles of Applied Behavior Analysis (ABA) and learn how to implement these principles across a Positive Behavior Support Model. Intervention plans include development of individual supports, classroom management supports, and whole school behavior supports.

**SPED 4423. Technology for the Inclusive Classroom (Fa). 3 Hours.**

A study of the use of instructional and assistive/augmentative technology for students with learning differences and special learning needs.

**SPED 4433. Curriculum Development and Instructional Planning (Fa). 3 Hours.**

Study of the research base for the design and adaptation of curriculum and instructional strategies for students with disabilities in general and special classrooms.

**SPED 4443. Career Development and Transition Planning for Students with Disabilities (Fa). 3 Hours.**

A study of career development theory and the research-based strategies for evaluating, planning, and implementing transition programs for students with disabilities.

**SPED 4453. Assessment of Students with Disabilities (Fa). 3 Hours.**

A study of the methods and techniques of the assessment of children in all areas of exceptionality with emphasis on diagnosis, classification, and tracking progress.

**SPED 4463. Teaching Students with Significant Disabilities (Sp). 3 Hours.**

A study of methods and materials for teaching students (K-12) with severe disabilities, including severe mental retardation, serious emotional disturbance, other health impairments, multiple disabilities, and severe physical disabilities.

**SPED 4473. Teaching Students with Disabilities in Math and Science (Sp). 3 Hours.**

A study of content, methods, and materials for teaching mathematics and science to students with diverse learning needs and how to adapt curriculum to meet diverse needs.

**SPED 4483. Teaching Literacy Skills to Students with Disabilities (Sp). 3 Hours.**

This course will offer a detailed study of how to systematically and explicitly teach essential reading skills to students with disabilities or those at-risk for learning difficulties.

**SPED 4493. Introduction to Students with Autism Spectrum Disorder (Sp). 3 Hours.**

The purpose of this course is to develop an understanding of autism spectrum disorders, understand the unique characteristics as they apply to the context of the classroom, be able to design an appropriate classroom setting, and use evidence based teaching practices for students with autism spectrum disorders.

**SPED 4538. Special Education Internship - Kindergarten through 6th Grade (Fa). 8 Hours.**

Provides the opportunity to focus demonstrating and refining teaching skills through a teaching internship in special education grades K-6 grades while simultaneously developing a professional portfolio. Must be taken concurrently with SPED 4543. Corequisite: SPED 4543.

**SPED 4543. Special Education Seminar - Kindergarten through 6th Grade (Fa). 3 Hours.**

Provides the opportunity to focus on issues encountered in the teaching internship in special education grades kindergarten through sixth grades while simultaneously developing a professional portfolio. Must be taken concurrently with SPED 4538. Corequisite: SPED 4538.

**SPED 4553. Special Education Research - Kindergarten through 6th Grade (Fa). 3 Hours.**

Designing, conducting and applying research to improve classroom instruction in special education (K-6).

**SPED 4568. Special Education Teaching Internship - 7th through 12th Grade (Sp). 8 Hours.**

Provides the opportunity to focus demonstrating and refining teaching skills through a teaching internship in special education grades 7-12 grades while simultaneously developing a professional portfolio. Must be taken concurrently with SPED 4573. Corequisite: SPED 4573.

**SPED 4573. Special Education Seminar - 7th through 12th Grade (Sp). 3 Hours.**

Provides the opportunity to focus on issues encountered in the teaching internship in special education grades seventh through twelfth grades while simultaneously developing a professional portfolio. Must be taken concurrently with SPED 4568. Corequisite: SPED 4568.

**SPED 4583. Special Education Research - 7th through 12th Grade (Sp). 3 Hours.**

Designing, conducting and applying research to improve classroom instruction in special education (7-12).

**SPED 5143. Teaching Communication Skills to Persons with Autism (Su). 3 Hours.**

This course focuses on classroom and teaching strategies for the development of communication skills with students who have autism spectrum disorders. Students will learn the characteristics of typical language development, atypical language development in autism, functional communication training and behavior analytic approaches to teaching communication. Prerequisite: Admission to the Graduate School and acceptance into the Special Education ASD Graduate Certificate Program.

**SPED 5173. Introduction to Dyslexia: Literacy Development & Structure of Language (Fa). 3 Hours.**

This course focuses on the assessment of students with disabilities, literacy development, skills and intervention. Students will utilize foundational concepts of oral and written language including the structure of language to assess students' difficulties and plan appropriate instruction. Techniques discussed include informal observation, miscue analysis, multisensory teaching, and portfolio assessment. Prerequisite: Admission to graduate school.

**SPED 5343. ABA and Classroom Management for Teachers (Irregular). 3 Hours.**

Students in this course will develop an understanding of the basic principles of Applied Behavior Analysis (ABA) and learn how to implement these principles across a Positive Behavior Support Model. Intervention plans include development of individual supports, classroom management supports, and whole school behavior supports.

**SPED 5543. Dyslexia Teaching Practicum (Sp). 3 Hours.**

Provides the opportunity to demonstrate and refine teaching skills with dyslexic students and others with literacy learning disabilities through case studies and structured multi-sensory teaching of reading and writing skills with grades k-12 while simultaneously developing a professional portfolio. A minimum of 82 hours of field experiences with dyslexic students is required.

**SPED 5633. Curriculum Development and Instructional Planning (Irregular). 3 Hours.**

Study of the research base for the design and adaptation of curriculum and instructional strategies for students with disabilities in general and special classrooms.

**SPED 5643. Individual Diagnostic Testing (Irregular). 3 Hours.**

A study of various individual diagnostic tests used to identify students with disabilities and develop individual educational programs. Prerequisite: Admission to Graduate School.

**SPED 5653. Individual Intelligence Testing (Irregular). 3 Hours.**

A study of various individual intelligence tests, including the Wechsler series, and their use in schools to identify students with disabilities. Prerequisite: Admission to Graduate School.

**SPED 5663. Teaching Science and Math to Students with Disabilities (Irregular). 3 Hours.**

A study of content, methods, and materials for teaching science and math courses to students with diverse learning needs and how to adapt curriculum to meet diverse needs. Prerequisite: Admission to graduate school.

**SPED 5673. Teaching Students with Disabilities in the Content Areas (Irregular). 3 Hours.**

A study of content, methods, and materials for teaching content courses to students with diverse learning needs (K-12).

**SPED 5683. Teaching Literacy Skills to Students with Disabilities (Irregular). 3 Hours.**

This course will offer a detailed study of how to systematically and explicitly teach essential reading skills to students with disabilities or those at-risk for learning difficulties.

**SPED 5733. Inclusive Practices for Diverse Populations (Su). 3 Hours.**

An advanced study of the characteristics of persons with exceptional learning needs and the provision of appropriate instruction in the general education classroom including the use of current technologies including instructional media, social networking, and other educational technologies. Prerequisite: Graduate standing.

**SPED 5743. Teaching Persons With Physical and Health Disabilities (Sp). 3 Hours.**

This course is an advanced course at the master's level in the specialty studies. The Scholar Practitioner model at this level will pursue an in-depth study of the characteristics, needs, and methods for teaching of persons with physical and health disabilities while emphasizing advance learning in the specialty studies and the social and behavioral studies in the substantive areas. Prerequisite: Graduate standing.

**SPED 5753. Nature and Needs of Persons with Serious Emotional Disorders (Irregular). 3 Hours.**

A survey of the educational, psychological, and social characteristics of individuals with serious emotional disorders. Four major categories of behaviors (personality disorders, pervasive developmental disorders, and learning/behavior disorders) are reviewed in relationship to identification, assessment, and program intervention within the public school setting. Prerequisite: CIED 3023.

**SPED 5763. Teaching Individuals with Severe Disabilities (Sp). 3 Hours.**

Methods and materials for teaching students with severe disabilities, including severe mental retardation, serious emotional disturbance, and severe physical disabilities.

**SPED 5773. Methods for Young Children with Disabilities (Irregular). 3 Hours.**

This course is one of the substantive core courses required of all students being recommended for the P-4 Instructional Specialist license. The Scholar-Practitioner Model at this level provides an introduction to the education of young children with special learning needs and a foundation for the developing professional.

**SPED 5783. Professional and Family Partnerships (Sp). 3 Hours.**

This course is an advanced course at the master's level in the specialty studies. The Scholar Practitioner model at this level will pursue an in-depth study of family-school partnerships from early childhood through the transition to adulthood while emphasizing advance learning in the specialty studies and the social and behavioral studies in the substantive areas. Prerequisite: Admission to graduate school.

**SPED 5873. Assessment and Programming for Students with Disabilities (Fa). 3 Hours.**

Methods and techniques of assessment of children in all areas of exceptionality with emphasis on diagnosis and classification.

**SPED 5883. Research in Inclusive Education (Fa). 3 Hours.**

Review of research in inclusive education including all areas of exceptionality and English language learners with emphasis on research-based practices.

**SPED 5893. Organization, Administration and Supervision of Special Education (Irregular). 3 Hours.**

Procedures, responsibilities and problems of organization, administration, and supervision of special education programs.

**SPED 599V. Special Topics (Irregular). 1-6 Hour.**

Discussion and readings on selected topics in special education. Special focus on recent and emerging topics in special education. Prerequisite: Admission to Graduate School and Special Education graduate program. May be repeated for up to 6 hours of degree credit.

**SPED 605V. Independent Study (Irregular). 1-6 Hour.**

Advanced studies on potential research topics for graduate students in special education. Prerequisite: Admission to the Graduate School and instructor consent. May be repeated for up to 6 hours of degree credit.

**SPED 6403. Emerging Issues in Special Education (Irregular). 3 Hours.**

A study in the complex issues with which professionals in the field of special education must be familiar and prepared to address.

**SPED 641V. Special Topics in Special Education (Irregular). 1-3 Hour.**

Discussion and advanced studies on select topics in special education. Specific focus will include evidence-based and emerging practices in special education.

**SPED 6423. Philosophical and Sociological Bases of Special Education (Irregular). 3 Hours.**

A study of the basic philosophical and sociological bases for current practices in special education.

**SPED 6433. Legal Aspects of Special Education (Irregular). 3 Hours.**

A study of litigation and legislation in special education, federal and state laws and court cases, and due process hearings.

This course is cross-listed with EDLE 6433.

**SPED 6803. Teaching Students with Autism Spectrum Disorders (Fa). 3 Hours.**

This course provide students with an understanding of individuals who have been diagnosed with autism spectrum disorders. The course provides a life-span perspective by focusing on preschoolers, school-aged children, and adults. Students will study the characteristics of these individuals and general educational strategies for their education.

**SPED 6813. Characteristics and Assessment of Persons with ASD (Sp). 3 Hours.**

This course provides an in-depth study of the characteristics and assessment of persons with autism spectrum disorders. It includes formal and informal assessment measures used to assist in the identification of students with ASD, as well as provide information for program development for this group of students.

**SPED 6823. Instructional Methods for Students with Autism Spectrum Disorders (Fa). 3 Hours.**

This course is designed to assist professional educators in planning and implementing instructional and support services for students with autism spectrum disorders. Students will learn how to participate in collaborative family, school, and community partnerships.

**SPED 6833. Practicum in Autism Spectrum Disorders (Sp, Su, Fa). 3 Hours.**

Supervised field experiences in programs, schools, and other settings for children with autism spectrum disorders.

**SPED 6843. Basic Principles of ABA (Fa). 3 Hours.**

Course provides information on: (a) the philosophical assumptions and principles of behavior analysis; (b) basic principles, processes, and concepts of applied behavior analysis; and (c) ethical and legal issues involved in its use.

**SPED 6853. Behavioral Assessment in ABA (Su). 3 Hours.**

Course content includes information on effective methods and the development of skills: (a) assessing, organizing, and interpreting behavior; (b) conducting task analysis and selecting intervention goals and strategies; (c) displaying data; and (d) making evidence-based decisions. Legal and ethical standards will be reviewed and applied to behavioral change procedures used.

**SPED 6863. Behavior Change Procedures and Supports (Sp). 3 Hours.**

Course content includes (a) information on behavior change procedures; (b) activities designed to acquire skill in developing and evaluating behavioral change programs; and (c) information and activities designed to acquire skills in providing and monitoring persons and systems providing support. Legal and ethical standards will be reviewed and applied to the course content.

**SPED 6873. Measurement and Experimental Design (Fa). 3 Hours.**

Course content includes information on and the development of skills in: (a) the measurement of the multiple dimensions of behaviors; (b) the use of methods of measuring behavior; (c) the experimental evaluation of interventions; and (d) the multiple methods of displaying and interpreting behavioral data. Legal and ethical standards will be reviewed and applied to the course content.

**SPED 6883. ABA Ethical, Professional, and Legal Standards (Fa). 3 Hours.**

Course content includes information on the ethical, professional and legal standards in special education and, specifically, the area of applied behavior analysis.

**SPED 6893. Practicum in Applied Behavioral Analysis (Sp, Fa). 3 Hours.**

This course is a supervised practicum that provides students with experience in applying the knowledge, skills, and dispositions by teaching individuals using Applied Behavior Analysis. Instructor approval needed for enrolling in the course. May be repeated for up to 18 hours of degree credit.

## Statistics (STAT) Courses

**STAT 2023. Biostatistics (Sp). 3 Hours.**

An introductory course in biostatistics emphasizing methods for collecting, graphing, and understanding data. Special emphasis is placed upon available methods for both exploratory and confirmatory data analysis. Particular attention is given to statistical methods for data sets with discrete variables. Pre- or Corequisite: MATH 2554. Corequisite: Lab component.

**STAT 2303. Principles of Statistics (ACTS Equivalency = MATH 2103) (Sp, Su, Fa). 3 Hours.**

A problem-oriented course with applications from many fields. Emphasis on understanding the nature of statistical orderliness implied by probability laws. Statistical analysis is treated as a means of decision making in the face of uncertainty. Prerequisite: MATH 1203 or MATH 1204 each with a grade of C or better, or a score of at least 80% on the University of Arkansas Mastery of Algebra Exam, or a score of at least 26 on the math component of the ACT exam, or a score of at least 600 on the math component of the old SAT or 620 on the math component of the new SAT.

**STAT 3013. Introduction to Probability (Sp, Su, Fa). 3 Hours.**

A calculus-based introduction to probability. Discrete probability spaces and counting techniques, discrete and continuous probability distributions, random variables, random samples, law of large numbers, central limit theorem. Prerequisite: MATH 2564.

This course is cross-listed with MATH 3013.

**STAT 4001L. Statistics Methods Laboratory (Sp, Fa). 1 Hour.**

Introduction to the statistical software SAS, including its use for common statistical analyses. A practical complement to the statistical methodology covered in STAT 4003.

**STAT 4003. Statistical Methods (Sp, Fa). 3 Hours.**

Describing Data, Basic Probability, Random variables, Uniform, Normal and Binomial Distributions, Sampling Distributions, Confidence Intervals, Hypothesis testing, Correlation and Regression, Contingency table, Comparing two populations, ANOVA. Prerequisite: MATH 2554 or MATH 2554C.

**STAT 4033. Nonparametric Statistical Methods (Sp, Su, Fa). 3 Hours.**

Chi square tests. Kolmogorov-Smirnov goodness-of-fit tests, the Mann-Whitney and Wilcoxon 2-sampling tests, and various nonparametric measures of association. Prerequisite: STAT 2303 or STAT 2023 or departmental consent.

**STAT 4043. Sampling Techniques (Sp, Su, Fa). 3 Hours.**

Considers optimum techniques of simple random, stratified random, cluster, systematic and multistage sampling from finite populations subject to cost precision constraints. Wide range of applications. Prerequisite: STAT 4003.

**STAT 405V. Internship in Professional Practice (Sp, Su, Fa). 1-3 Hour.**

Professional work experience involving significant use of mathematics or statistics in business, industry or government. Prerequisite: Departmental consent. May be repeated for up to 3 hours of degree credit.

**STAT 4101L. Introduction to R (Fa). 1 Hour.**

A hands-on introduction to R software, a free and open-source computing environment used for data manipulation and analysis across a broad spectrum of subject areas. Intended for new users. Content begins with simple data manipulation, then complex data structures and common statistical procedures are covered.

**STAT 4333. Analysis of Categorical Responses (Sp). 3 Hours.**

Statistical tools to analyze univariate and multivariate categorical responses. Emphasis is given to Generalized Linear Models, including logistic regression and loglinear models. Prerequisite: STAT 4003 or departmental consent.

**STAT 4373. Experimental Design (Sp). 3 Hours.**

Topics in the design and analysis of planned experiments, including randomized block, Latin square, split plot, and BIB designs, use of fractional factorial replication, and repeated measures. Prerequisite: STAT 4003.

**STAT 5103. Introduction to Probability Theory (Fa). 3 Hours.**

Fundamentals of probability, distribution theory, and random variables; expected value, moments, and generating functions; classic parametric families of distributions; central limit theorems, inequalities, and laws of large numbers. Prerequisite: MATH 2574 and graduate standing in mathematics or statistics, or departmental consent.

**STAT 5113. Statistical Inference (Sp). 3 Hours.**

Statistical theory of estimation and testing hypothesis. Prerequisite: STAT 5103 and graduate standing in mathematics or statistics, or departmental consent.

**STAT 5313. Regression Analysis (Sp). 3 Hours.**

Review of matrix algebra, parameter estimation in linear models, regression diagnostics, collinearity, variable selection, nonparametric regression, Bayesian regression. Prerequisite: STAT 4003 or departmental consent.

**STAT 5333. Analysis of Categorical Responses (Sp). 3 Hours.**

Statistical tools to analyze univariate and multivariate categorical responses. Emphasis is given to Generalized Linear Models, including logistic regression and loglinear models. Prerequisite: STAT 4003 or departmental consent.

**STAT 5343. Stochastic Processes (Sp, Su, Fa). 3 Hours.**

Markov chains, branching processes, birth-death processes, queuing theory with application. Prerequisite: STAT 5103, and graduate standing in mathematics or statistics, or departmental consent.

**STAT 5353. Methods of Multivariate Analysis (Sp). 3 Hours.**

Statistical tools to analyze multivariate datasets. Topics include the multivariate linear model, principal component analysis, factor analysis, linear discriminant analysis, clustering, classification and regression trees, support vector machines, nonlinear dimensionality reduction. Prerequisite: STAT 5313, and graduate standing in mathematics or statistics, or departmental consent.

**STAT 5383. Time Series Analysis (Sp, Su, Fa). 3 Hours.**

Identification, estimation and forecasting of time series. Spectral analysis including the fast Fourier transform computational aspects are emphasized. Prerequisite: STAT 5103, and graduate standing in mathematics or statistics, or departmental consent.

**STAT 5413. Spatial Statistics (Fa). 3 Hours.**

Applied spatial statistics, covering univariate spatial modeling (kriging), multivariate spatial modeling (cokriging), methods of estimation and inference, and spatial sampling designs. Special relevance to remote sensing. Prerequisite: STAT 5313, and graduate standing in mathematics or statistics, or departmental consent.

**STAT 5443. Computational Statistics (Sp). 3 Hours.**

In-depth introduction to computer-based algorithms used for inference and forecasting. Course content may vary by semester. Possible algorithms covered could include: resampling methods (bootstrap), Markov chain Monte Carlo, variable selection in high-dimensional regression (LASSO and LARS), artificial neural networks, ensemble methods (boosting, bagging, random forests), and kernel methods. Prerequisite: STAT 5113 or departmental consent.

**STAT 550V. Statistical Consulting (Sp, Su, Fa). 1-3 Hour.**

Designed to give students a statistical consulting practicum. Students meet with clients, analyze data and prepare reports for the clients. May be repeated for up to 6 hours of degree credit.

**STAT 610V. Research in Statistics (Irregular). 1-4 Hour.**

Prerequisite: Graduate standing in mathematics or statistics, or departmental consent.

**STAT 639V. Topics in Statistics (Irregular). 1-3 Hour.**

Current state of the art on methodology in one of the topics: multivariate analysis, time series analysis, sequential analysis, factor analysis, or biostatistics. Prerequisite: Graduate standing in mathematics or statistics, or departmental consent. May be repeated for degree credit.

## Statistics and Analytics (STAN) Courses

**STAN 5013. Special Topics in Statistics and Analytics (Irregular). 3 Hours.**

Designed to cover specialized topics not usually presented in depth in regular courses. May be repeated for up to 6 hours of degree credit.

**STAN 5023. Research Problems in Statistics and Analytics (Irregular). 3 Hours.**

Designed to allow focused study into student's research area. May be repeated for up to 6 hours of degree credit.

**STAN 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Master's Thesis. Prerequisite: Graduate standing. May be repeated for degree credit.

## Supply Chain Management (SCMT) Courses

**SCMT 2103. Introduction to Supply Chain Management (Sp, Fa). 3 Hours.**

An introduction to supply chain management. All functional areas of supply chain management are explored to provide students an end-to-end view of supply chain management processes. Pre- or Corequisite: ISYS 2103. Prerequisite: WCOB 1033 and ECON 2023 each with a grade of C or better.

**SCMT 2103H. Honors Introduction to Supply Chain Management (Sp, Fa). 3 Hours.**

An introduction to supply chain management. All functional areas of supply chain management are explored to provide students an end-to-end view of supply chain management processes. Pre- or Corequisite: ISYS 2103. Prerequisite: WCOB 1033 and ECON 2023 each with a grade of C or better.

This course is equivalent to SCMT 2103.

**SCMT 3443. Transportation and Distribution Management (Sp, Fa). 3 Hours.**

Examines modes of freight transportation and institutional factors that influence transportation decisions; regulation, public policy, other governmental variables reviewed in detail. Additionally, distribution aspects of the logistics function within the firm such as warehousing, cross-docking, and distribution center management are explored. Prerequisite: (ECON 2013 and ECON 2023) or ECON 2143.

**SCMT 3613. Supply Management (Sp, Fa). 3 Hours.**

Management of tactical and strategic sourcing relationships including supply aspects of the logistics function within the firm such as purchasing, procurement, forecasting, inventory control, quality, sustainability and negotiation. Prerequisite: (ECON 2013 and ECON 2023) or ECON 2143.

**SCMT 3623. Advanced Inventory Management and Forecasting (Sp, Fa). 3 Hours.**

The intent of this course is to rigorously examine two key elements of logistics: inventory control and forecasting. Coverage of the former topic specifically focuses on inventory control methods for stochastic demand and lead times. Besides a review of the associated theoretical bases, the implementation of such policies in Excel is a central component of the course. Forecasting topics covered in this course include a review of a variety of forecasting techniques and forecast error measurement. Moreover, the linkage between forecasting and inventory control is discussed. As with inventory control, students will learn how to implement various forecasting techniques in Excel. Prerequisite: SCMT 3613.

**SCMT 3633. Behavioral Supply Chain Management (Irregular). 3 Hours.**

Effective supply chain management requires an understanding of people who make supply chain decisions. This course will expose students to behavioral issues in supply chain and logistics. Readings will be assigned weekly, with a focus on practical implications. There will be an emphasis on experiential learning and teams of students will work on course projects in the area of the retail supply chain, broadly defined. Prerequisite: SCMT 3613.

**SCMT 3643. International Transportation and Logistics (Sp, Fa). 3 Hours.**

Logistics activities in international business with special emphasis on international sourcing and distribution channels, international transportation, import and export procedures, international sale and payment terms, and documentation. Special emphasis is placed on current events and their effect on the management of operations of U.S.-based organizations. Prerequisite: ECON 2013 and ECON 2023, or ECON 2143.

**SCMT 3653. Retail Supply Chain Analysis (Sp, Fa). 3 Hours.**

This course examines the various function components of retail supply chain management and focuses on analysis and metrics required to effectively manage a retail supply chain. The purpose of this course is to introduce students to the various aspects of retail supply chain management. In this course, the students will learn to speak of the "language" of retailing and acquire the skills to effectively analyze the performance of retail supply chains. Prerequisite: (ECON 2013 and ECON 2023) or ECON 2143.

**SCMT 4003H. Honors Supply Chain Management Colloquium (Irregular). 3 Hours.**

Explores events, concepts and/or new developments in the field of Supply Chain Management. Prerequisite: Junior standing. May be repeated for up to 6 hours of degree credit.

**SCMT 4103. Special Topics in Supply Chain Management (Irregular). 3 Hours.**

Special topics in supply chain management not available in other courses. Topics are selected by the supply chain faculty for each semester each course is offered. Prerequisite: Junior standing.

**SCMT 4123. Sustainable Logistics and Supply Chain Management (Irregular). 3 Hours.**

Explores key sustainability concepts across supply chain functions of supply management, operations, and distribution. Course topics include values-based leadership, globalizing sustainability, marketing sustainability, voluntary product standards and governance, stakeholder engagement, reverse logistics, humanitarian logistics, and transportation. Overall, we will consider the feasibility and role of firms in producing sustainability in global supply chains.

**SCMT 4633. Logistics Provider and Carrier Management (Sp, Fa). 3 Hours.**

Reviews special management techniques and analytical framework available for solving problems associated with companies whose core competencies include distribution and transportation modes of truck, rail, air, water, pipeline and intermodal. Prerequisite: SCMT 3443.

**SCMT 4653. Supply Chain Strategy (Sp, Fa). 3 Hours.**

Design and management of supply chain systems for firms of varying size and different supply and market conditions. This capstone course relies heavily on computer assisted cases and lectures from visiting executives. Prerequisite: SCMT 3443 and SCMT 3613 and SCMT 3623.

**SCMT 466V. Independent Study in Supply Chain Management (Sp, Fa). 1-3 Hour.**

Permits students to explore selected topics in supply chain management, logistics and transportation.

**SCMT 4853. Cross-Sector Collaboration for Sustainability (Sp). 3 Hours.**

This course explores how organizations in the three sectors of society work together in value creation by addressing social and environmental problems manifest in global supply chains. Focusing on business and nonprofit organizations, we investigate the forces that bring about and influence these collaborations from practical and theoretical perspectives. Prerequisite: Junior Standing.

**SCMT 5123. Sustainable Logistics and Supply Chain Management (Irregular). 3 Hours.**

Explores key sustainability concepts across supply chain functions of supply management, operations, and distribution. Course topics include values-based leadership, globalizing sustainability, marketing sustainability, voluntary product standards and governance, stakeholder engagement, reverse logistics, humanitarian logistics, and transportation. Overall, we will consider the feasibility and role of firms in producing sustainability in global supply chains.

**SCMT 5133. Quantitative Methods and Decision Making (Fa). 3 Hours.**

Utilization of information, quantitative techniques, and computer application in decision making and problem solving for managers.

This course is cross-listed with ISYS 5403.

**SCMT 560V. Special Topics in Logistics (Irregular). 1-6 Hour.**

Explores current events, concepts, and new developments in the field of logistics and transportation. Topics are selected by the Marketing and Transportation faculty for each semester the course is offered. May be repeated for up to 6 hours of degree credit.

**SCMT 5633. Retail and Consumer Products Supply Chain Management (Sp). 3 Hours.**

Supply chain management is the integration of key business processes from end user through suppliers. The focus of this course is on the core processes that must be linked throughout the supply chain with an emphasis on logistics processes. Foundational topics in logistics and supply chain management will be covered.

**SCMT 5643. Transportation Strategies in the Supply Chain (Fa). 3 Hours.**

This course focuses on the setting of objectives and the design of optimal transportation strategy and alternative means of implementing transportation strategies within different types of organizations.

**SCMT 5653. Global Logistics and Supply Management (Irregular). 3 Hours.**

This course examines the planning and management of logistics, but emphasizes supplier selection and development, logistics options, strategic alliances, and performance measurement. Emphasis is placed on the integration of purchasing, materials management, and multi-firm logistics planning. International logistics is also addressed within each of these topics. Prerequisite: SCMT 5633.

**SCMT 5663. Supply Chain Management (Fa). 3 Hours.**

This course examines the planning and management of supply chain activities including supplier selection and development, demand management, quick response, vendor managed inventory, logistics options, strategic alliances, and performance measurement. Emphasis is placed on the integration of purchasing, materials management, and multi-firm logistics planning.

**SCMT 5673. Modeling Retail & Consumer Products Logistics (Irregular). 3 Hours.**

This is a more quantitative approach to measuring logistics performance, modeling tradeoffs and making decisions. Topics include forecasting, inventory management, network optimization, and transportation routing. Prerequisite: SCMT 5633.

**SCMT 5683. Supply Chain Management in Global Business (Sp). 3 Hours.**

Logistics management is that part of supply chain management that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services and related information between the point of origin and the point of consumption in order to meet customers' requirements. To achieve its objectives, logistics management requires the integration of business processes within and across organizations in a supply chain. Using hands on projects and class discussions based on case studies and current press articles, this course will expose participants to logistics management challenges faced by member organizations of retail supply chains competing in an omni-channel environment transformed by radical changes in consumer behavior, technology, and globalization. Prerequisite: SCMT 5663.

**SCMT 5693. Predictive Supply Chain Analytics (Fa). 3 Hours.**

This course will introduce students to the variety and sources of data available from different technology-enabled sources, and through cases, expose them to innovative ways in which firms are using this data to improve supply chain management processes. The course will survey standard and advanced analytical techniques used to transform this data into actionable business intelligence and students will gain hands-on experience with these techniques. They will gain an understanding of the practical considerations that arise in real-world applications by means of projects.

**SCMT 636V. Special Topics in Supply Chain Management (Sp, Su, Fa). 1-6 Hour.**

Independent reading and investigation in supply chain management. Prerequisite: Doctoral standing.

**SCMT 6413. Fundamentals of Logistics and Supply Chain Management (Irregular). 3 Hours.**

Introduces students to the key substantive areas of logistics and supply chain management. Offers a combination of lectures covering topics such as inventory control and forecasting and seminars discussing associated academic literature. Prerequisite: Admission to doctoral program. May be repeated for up to 6 hours of degree credit.

**SCMT 6423. Seminar in Structural Equation Modeling (Irregular). 3 Hours.**

The seminar focuses on data analysis using structural equation modeling methodologies. The course will concentrate on four basic methodologies: exploratory factor analysis, confirmatory factor analysis, path analysis, structural equations modeling with latent variables and their applications in empirical research. Prerequisite: Graduate Standing and MKTG 6433 or ISYS 5623 or ISYS 5723 or PSYC 6343 or equivalent. May be repeated for up to 6 hours of degree credit. This course is cross-listed with MKTG 6423, ISYS 6423.

**SCMT 6433. Supply Chain Management Research (Irregular). 3 Hours.**

Introduces students to major streams of SCM research and discusses the interest and merit of the research question(s), the appropriateness of the theoretical framework and/or hypothesis development, the adequacy of the research design, including data collection, measurement, and analysis (methodology), the accuracy of the discussion of the results. Prerequisite: Admission to doctoral program. May be repeated for up to 6 hours of degree credit.

**SCMT 6443. Theory in Supply Chain Management (Irregular). 3 Hours.**

Provides an overview of theories from fields such as strategic management and marketing and explores applications of these theories to supply chain management research. Emphasis is placed on the development of theoretically grounded testable hypotheses in the context of a broad range of SCM research areas. Prerequisite: Admission to doctoral program.

**SCMT 6453. Behavioral Supply Chain Management (Irregular). 3 Hours.**

Focuses on human behavior in supply chain management. Topics may include but will not be restricted to behavior in inventory and ordering processes, in retail store execution, in global supply chain management, in the face of adversity and catastrophic supply chain risk, and in supply chain relationships. Prerequisite: Admission to doctoral program. May be repeated for up to 6 hours of degree credit.

**SCMT 6463. Research in Retail Supply Chain Management (Irregular). 3 Hours.**

Focuses on retail-related supply chain management research. Seminar topics may include but will not be restricted to retail sales and order forecasting, inventory management, and store execution issues. Prerequisite: Admission to doctoral program. May be repeated for up to 6 hours of degree credit.

**SCMT 6473. Emerging Topics in Supply Chain Management (Irregular). 3 Hours.**

Covers various emerging topics, such as information technology applications in the supply chain, humanitarian logistics, supply chain security, and individual-level decision-making in the supply chain. Prerequisite: Admission to doctoral program. May be repeated for up to 6 hours of degree credit.

**SCMT 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Dissertation studies in supply chain management. Prerequisite: Candidacy. May be repeated for degree credit.

## Sustainability (SUST) Courses

**SUST 1103. Foundations of Sustainability (Sp). 3 Hours.**

Foundations of Sustainability is an interdisciplinary course to introduce concepts and theories of sustainability at global, regional, and local levels. Emphasis is on four thematic areas of sustainability; social, natural, built and managed systems. The aim is to increase environmental literacy for engagement of sustainability into students' own disciplines.

**SUST 1103H. Honors Foundations of Sustainability (Sp). 3 Hours.**

Foundations of Sustainability is an interdisciplinary course to introduce concepts and theories of sustainability at global, regional, and local levels. Emphasis is on four thematic areas of sustainability; social, natural, built and managed systems. The aim is to increase environmental literacy for engagement of sustainability into students' own disciplines. Corequisite: Drill component.

This course is equivalent to SUST 1103.

**SUST 2103. Applications of Sustainability (Fa). 3 Hours.**

Applications of Sustainability is an interdisciplinary course introducing data gathering, data analysis or interpretation, and synthesis of data applied to problems in sustainability. Students engage in hands-on, inquiry-based investigation of sustainability issues across four thematic areas: social systems, natural systems, built systems (Architecture & Engineering), and managed systems (Agriculture & Business). Prerequisite: SUST 1103 or instructor consent.

**SUST 2103H. Honors Applications of Sustainability (Fa). 3 Hours.**

Applications of Sustainability is an interdisciplinary course introducing data gathering, data analysis or interpretation, and synthesis of data applied to problems in sustainability. Students engage in hands-on, inquiry-based investigation of sustainability issues across four thematic areas: social systems, natural systems, built systems (Architecture & Engineering), and managed systems (Agriculture & Business). Corequisite: Drill component. Prerequisite: SUST 1103 or instructor consent.

This course is equivalent to SUST 2103.

**SUST 390V. Special Problems in Sustainability (Sp, Fa). 3-6 Hour.**

Special Problems is intended to fulfill a need in the sustainability curriculum to offer one-time pilot course work in any semester prior to the formal curriculum approval process, offer seminars on unusual but timely topics in sustainability on a one-time basis, or independent study for students seeking additional expertise in sustainability research and scholarship. Prerequisite: SUST 1103 and SUST 2103 or instructor permission. May be repeated for up to 6 hours of degree credit.

**SUST 4103. Capstone Experience in Sustainability (Sp). 3 Hours.**

A capstone experience focused on service learning, research learning, or internship in sustainability. Student engagement in community service, research, or relevant work on sustainability through a summer internship or equivalent experience provides opportunities for students to apply sustainability theories and principles learned from prior course work toward advancing sustainability across society. Prerequisite: SUST 1103 and SUST 2103.

**SUST 4603. Environmental Sociology. 3 Hours.**

The course provides a social perspective on environmental issues. It examines the linkage between society, ecological systems and the physical environment. It provides conceptual framework(s) for analyzing environmental issues, considers the role of humans in environmental issues, and enhances understanding the complexity of the relationship between societal organization and environmental change. Prerequisite: Junior or senior standing.

This course is cross-listed with HDFS 4603, SOCI 4603.

**SUST 4693. Environmental Justice (Sp). 3 Hours.**

This course deals with the ethical, environmental, legal, economic, and social implications of society's treatment of the poor, the disenfranchised, and minorities who live in the less desirable, deteriorating neighborhoods, communities, and niches of our country. The class integrates science with philosophy, politics, economics, policy, and law, drawing on award-winning films, current news, and case studies. This course is cross-listed with GEOS 4693, GEOS 4693H.

**SUST 5103. Analysis and Design of Resilient Systems (Fa). 3 Hours.**

Introduces students to complex systems theory, change theory, systems analysis and modeling, and design theory for resilient systems. This course draws theory and heuristics from multiple disciplines, including but not limited to engineering, architecture, ecology, risk assessment, management, social sciences, political sciences, the arts and the humanities.

**SUST 5203. Decision Making, Analysis and Synthesis in Sustainability (Sp). 3 Hours.**

Provides an applied framework for analyzing decision dynamics, supporting and promoting more sustainable decisions, and measuring the sustainability of systems. The course applies theories of change, institutional decision theory, social and institutional constructs of sustainability, indicator and metric development across social, ecological, and economic domains, and communication strategies.

**SUST 5303. Sustainable Global Food, Energy and Water Systems (Fa). 3 Hours.**

Provides a detailed review of the existing global food production/distribution and water systems, with an emphasis on scarcity, equity, management and challenges from changing global systems. This course explores the inputs and efficiencies of existing agricultural production systems, and examines equity and value in these systems.

**SUST 590V. Special Problems in Sustainability (Irregular). 1-6 Hour.**

Special Problems is intended to fulfill a need in the sustainability curriculum to offer one-time pilot course work in any semester prior to the formal curriculum approval process, offer seminars on unusual but timely topics in sustainability on a one-time basis, or independent study for students seeking additional expertise in sustainability research and scholarship. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

## Swahili (SWAH)

### Courses

**SWAH 1003. Elementary Swahili I (Irregular). 3 Hours.**

Stresses correct pronunciation, aural comprehension, simple speaking ability, and leads to mastery of basic grammar and limited reading ability.

**SWAH 1013. Elementary Swahili II (Irregular). 3 Hours.**

Continues to stress correct pronunciation, aural comprehension, and speaking ability and continues to build mastery of basic grammar and limited reading ability. Prerequisite: SWAH 1003.

**SWAH 1116. Intensive Swahili I (Irregular). 6 Hours.**

Equivalent to SWAH 1003 and SWAH 1013. Stresses correct pronunciation, aural comprehension, and simple speaking ability, and leads to mastery of basic grammar and limited reading ability.

**SWAH 2003. Intermediate Swahili I (Irregular). 3 Hours.**

Leads to greater facility in spoken language and develops more advanced reading and writing skills. Prerequisite: SWAH 1003 and SWAH 1013.

**SWAH 2013. Intermediate Swahili II (Irregular). 3 Hours.**

Leads to greater facility in spoken language and develops more advanced reading and writing skills. Prerequisite: SWAH 1003, SWAH 1013 and SWAH 2003.

**SWAH 2116. Intensive Swahili II (Irregular). 6 Hours.**

Equivalent to SWAH 2003 and SWAH 2013. Leads to greater facility in speaking, comprehension, and writing skills and intensive development of reading skills. Prerequisite: SWAH 1116 or SWAH 1003 and SWAH 1013.

## Technology Education (TEED)

### Courses

**TEED 1103. The Nature of Technology (Sp). 3 Hours.**

Foundational study of the close relationship between nature, emerging technologies, and technological literacy throughout history.

**TEED 1203. CAD Technology I (Sp). 3 Hours.**

Use and care of instruments; lettering, sketching, applied geometry, pictorial drawing, and orthographic projection. Introduction to computer-aided drafting.

**TEED 1603. Industrial Safety (Irregular). 3 Hours.**

Study of accidents, causes, the cost of accidents, appraising safety performance, safety inspection, planning and maintaining a safe environment, and organization and operation of school laboratories and industrial accident prevention programs.

**TEED 2103. Technology and Society (Fa). 3 Hours.**

An examination of the complex relationships between society, values, and technological development in developed and under-developed nations.

**TEED 3103. Frameworks for Resolving Technological Challenges (Even years, Sp). 3 Hours.**

Foundational concepts of engineering and design, including analysis and use of technology problem solving tools of research, experimentation and trouble-shooting.

**TEED 3203. The Technology of Communicating (Irregular). 3 Hours.**

Conceptual foundations and methodologies for teaching information and communications technology.

**TEED 3303. The Technologies of Energy and Movement (Irregular). 3 Hours.**

Conceptual foundations and methodologies for teaching energy, power, and transportation technologies at the secondary level. Prerequisite: TEED 1103 or TEED 2103.

**TEED 4103. Engineering Design for Technology Education Capstone (Irregular). 3 Hours.**

Analysis of engineering design, focus on design processes, physical and computer modeling, and materials processing. Prerequisite: TEED 1103 and TEED 3103.

**TEED 459V. Industrial Internship (Sp, Su, Fa). 1-12 Hour.**

In an actual industrial setting, the student will study managerial functions, organizational practices, product design, production fabrication, routing, quality control, work schedules, industrial relations, and related activities of American industrial society. May be repeated for up to 15 hours of degree credit.

## Theatre (THTR) Courses

**THTR 1003. Basic Course in the Arts: Theatre Appreciation (ACTS Equivalency = DRAM 1003) (Sp, Su, Fa). 3 Hours.**

Introduction to theatre arts; playwriting, directing, acting, and design. For the general student. May not be presented towards satisfaction of the B.A. in fine arts requirement by theatre majors.

**THTR 1003H. Honors Basic Course in the Arts: Theatre Appreciation (Sp, Fa). 3 Hours.**

Introduction to theatre arts; playwriting, directing, acting, and design. For the general student. May not be presented towards satisfaction of the B.A. in fine arts requirement by theatre majors.

This course is equivalent to THTR 1003.

**THTR 1013. Musical Theatre Appreciation (Sp, Fa). 3 Hours.**

An introduction to musical theatre literature, history, process and artists. Includes guided listening, and reading, viewing, and critically thinking about this quintessentially American art form and its role in society.

**THTR 1223. Introduction to Theatre (Fa). 3 Hours.**

Examination of the various elements that make up the theatre art form. Provides hands-on experience in the artistic and technical aspects of theatre. Playwriting, directing, acting and design principles are discussed. Covers dramatic history, literature, theory, and the role of the theatre in society. Course culminates in collaborative group projects. Prerequisite: Theatre major or minor.

This course is equivalent to THTR 1003.

**THTR 1311L. Stage Technology I Laboratory: Costume and Makeup (Sp, Fa). 1 Hour.**

Practical application of costume technology and makeup skills. Students will participate in projects involving the construction and preparation of costumes and makeup designs associated with departmental productions. Production running crew positions will also be assigned. Corequisite: THTR 1313.

**THTR 1313. Stage Technology I: Costumes and Makeup (Sp, Fa). 3 Hours.**

Fundamentals of basic costume construction with an emphasis on techniques, materials, planning and process. Training in the basic principles of theatrical makeup application. Prerequisite: Theatre major or instructor consent. Corequisite: THTR 1311L.

**THTR 1321L. Stage Technology II Laboratory: Scenery and Lighting (Sp, Fa). 1 Hour.**

Practical application of principles of scenery and lighting technology. Students will participate in projects involving the construction and preparation of scenery, stage properties, and lighting associated with departmental productions. Production running crew positions will also be assigned. Corequisite: THTR 1323.

**THTR 1323. Stage Technology II: Scenery and Lighting (Sp, Fa). 3 Hours.**

Fundamentals of scenery and lighting technology with emphasis on theatre tools, equipment, and basic drafting. Training in basic principles and skills of stage carpentry, lighting technology and rigging. Pre- or Corequisite: Theatre or Drama major or instructor consent. Corequisite: THTR 1321L.

**THTR 1423. Script Analysis (Sp). 3 Hours.**

Investigation of the dramatic forms and structures of play texts - from the classical era to the present - with special emphasis on how actors, directors, and designers encounter and realize texts in the production process. Prerequisite: THTR 1223.

**THTR 1423H. Honors Script Analysis (Sp). 3 Hours.**

Investigation of the dramatic forms and structures of play texts from the classical era to the present with special emphasis on how actors, directors, and designers encounter and realize texts in the production process. Prerequisite: THTR 1223 and honors candidacy.

**THTR 1683. Acting I (Sp, Fa). 3 Hours.**

An analytical approach to the actor's art with emphasis on the techniques of characterization.

**THTR 1883. Acting I for Theatre Majors (Sp). 3 Hours.**

An introductory acting studio course for theatre majors, exploring the physical, vocal, and imaginative processes required for performance of dramatic texts, and building a vocabulary and technique for acting through exercises and scene-work that will build a foundation for theatre classes within the major. Pre- or Corequisite: Theatre major or minor. Prerequisite: THTR 1223.

**THTR 2313. Fundamentals of Theatrical Design (Fa). 3 Hours.**

Principles and practices of theatre design including the elements of design and the fundamental principles of art and its application to the areas of set, costume, lighting and sound design. This course studies the designer's role in the production process, design requirements, and aesthetics. Emphasis on the basic principles of two-dimensional art and graphic forms through the use of various media.

**THTR 2483. Stage Movement for the Actor (Fa). 3 Hours.**

Instruction incorporates physical warm-up strategies and exercises designed to improve relaxation; develop flexibility, alignment, strength, kinesthetic awareness, and appreciation of mind/body unity; and to connect stage movement to imagination, character development, and text. Techniques covered include Alexander training, Michael Chekhov work, dance, theater games and gentle yoga practice. Prerequisite: THTR 1223 and (THTR 1683 or THTR 1883).

**THTR 2513. Drafting for the Theatre (Even years, Fa). 3 Hours.**

Covers basic technical drawing and graphic skills necessary to communicate design ideas to fellow artisans. Both production and design-oriented drafting will be explored using both hand drafting and computer techniques. Prerequisite: THTR 1323 and THTR 1321L or instructor consent.

**THTR 2683. Acting II (Sp, Fa). 3 Hours.**

An acting studio course deepening the exploration of techniques introduced in Acting I, including expanded work on characterization and script analysis through exercises, scene-work and monologue performance. Prerequisite: THTR 1223 or THTR 1003 or THTR 1003H and (THTR 1683 or THTR 1883).

**THTR 3001. Production Practicum (Sp, Fa). 1 Hour.**

Credit for participation in technical assignments related to mainstage or faculty-directed productions: one (1) credit hour per production. Assignments shall be determined by the faculty. Credit will be awarded only after completion of assignments and only with faculty approval. May be repeated for up to 2 hours of degree credit.

**THTR 3011. Performance Practicum (Sp, Fa). 1 Hour.**

Credit for performance in faculty directed productions; one credit hour per production. Assignments shall be determined by the faculty. Credit will be awarded only after satisfactory completion of assignment and with faculty approval. May be repeated for up to 2 hours of degree credit.

**THTR 3213. Costume Design (Even years, Fa). 3 Hours.**

Study of the art and practice of stage costume design. Emphasis on the expression of character through costume. Development of rendering and research skills. Prerequisite: THTR 2313.

**THTR 3243. Costume Technology (Irregular). 3 Hours.**

Advanced methods of costume construction techniques and the exploration of theatrical pattern drafting will be practiced through projects. Prerequisite: THTR 1313 and THTR 1311L.



**THTR 3433. Stage Speech (Sp, Fa). 3 Hours.**

An introduction to the basic skills of speech, voice production and communication for performance and broadcasting. Special focus on General American speech and the characteristics of speech regionalisms. The course will explore breath control, resonance, articulation, pitch, volume, voice quality and stress management. Prerequisite: THTR 1223 and either THTR 1683 or THTR 1883.

**THTR 3653. Directing I (Sp, Fa). 3 Hours.**

Basic principles and techniques of play direction, including play analysis, audition and rehearsal organization, staging and collaborating with actors. Pre- or Corequisite: Theatre major and junior or senior standing, or instructor consent. Prerequisite: THTR 1223 or THTR 1003 or THTR 1003H, and THTR 1313, THTR 1311L THTR 1323, THTR 1321L and THTR 2683.

**THTR 3663. Acting III (Sp). 3 Hours.**

An advanced acting studio building on techniques introduced in Acting I and II. Intensive work on script analysis, emotional preparation, awakening the imagination, characterization, partner work and playing action. Prerequisite: THTR 1683 or THTR 1883 and THTR 2683.

**THTR 3683. Stage Management (Sp). 3 Hours.**

Principles of stage management in the context of academic and professional theatre production. Issues of theatre management and producing are addressed as they relate to play production activities. Prerequisite: THTR 1223 or THTR 1003 or THTR 1003H and THTR 1313, THTR 1311L, THTR 1323 and THTR 1321L.

**THTR 3733. Lighting Design (Odd years, Sp). 3 Hours.**

The study of the practical application and technology of stage lighting including history, electricity, conventional and moving lighting instruments, dimming systems, consoles and control systems and related paperwork. Ten lab hours to coincide with departmental productions is required. Prerequisite: THTR 1323, THTR 1321L, and THTR 2313.

**THTR 3903. Theatrical Makeup (Odd years, Sp). 3 Hours.**

The techniques and skills of theatrical makeup and design involved in the creation and execution of character makeup for the stage. Prerequisite: THTR 1313 and THTR 1311L. May be repeated for up to 6 hours of degree credit.

**THTR 3923H. Honors Colloquium (Irregular ). 3 Hours.**

Treats a special topic or issue, offered as part of the honors program. Prerequisite: Honors candidacy (not restricted to candidacy in THTR). May be repeated for degree credit.

**THTR 399VH. Honors Thesis (Sp, Su, Fa). 1-6 Hour.**

The Honor student will complete a thesis. Prerequisite: Junior standing. May be repeated for up to 12 hours of degree credit.

**THTR 4063. Playwriting (Sp). 3 Hours.**

A beginning workshop in the fundamentals of playwriting which culminates in the completion of an original play. Exercises in dialogue, character development, conflict and structure will be an essential part of the course. Prerequisite: THTR 1223 or THTR 1003 or THTR 1003H.

**THTR 4123. Rendering for the Theatre (Even years, Sp). 3 Hours.**

Provides the fundamentals of visual communication for theatre in a variety of media and techniques. Investigation of traditional drawing and painting methods and materials used by theatrical designers. Application of computer technology and software training in creating documents necessary to the theatrical process. Prerequisite: THTR 2313.

**THTR 4153. Musical Theatre Performance (Irregular). 3 Hours.**

Principles and techniques of performing a singing role for the theatre. Examines the relationship between score and text. May be repeated for up to 6 hours of degree credit.

**THTR 4233. History of the Theatre I (Fa). 3 Hours.**

A survey of dramatic literature, theatre practices and cultural contexts for dramatic presentation from classical Greece through the Restoration. Prerequisite: THTR 1223 or THTR 1003 or THTR 1003H.

**THTR 4333. History of the Theatre II (Sp). 3 Hours.**

A survey of dramatic literature, theatre practices and cultural contexts for dramatic presentation from the 18th century to the mid-20th century. Emphasis is given to Western theatre practices. Prerequisite: THTR 1223 or THTR 1003 or THTR 1003H.

**THTR 4463. African American Theatre History -- 1950 to Present (Sp). 3 Hours.**

A chronological examination of African-American theatre history from 1950 to the present through the study of African-American plays and political/social conditions. Upon completion of this course the student should be familiar with the major works of African-American theatre and have a deeper understanding of American History.

**THTR 4653. Scene Design (Odd years, Fa). 3 Hours.**

Theory and practice in the art of scenic design, including historical and contemporary styles and procedures. Prerequisite: THTR 1323, THTR 1321L, THTR 2313 and THTR 2513.

**THTR 4683. Acting IV - Shakespeare Performance (Fa). 3 Hours.**

An acting studio course exploring the performance of Shakespearean texts, with focus on scansion, verse and prose, poetry, characterization and voice and articulation. Prerequisite: THTR 1683 or THTR 1883, and THTR 2683, THTR 3663 and THTR 3433.

**THTR 4833. Scene Painting (Odd years, Sp). 3 Hours.**

A studio class in painting techniques for the theatre. Exercises in color, textures, styles, and execution. Prerequisite: THTR 1323, THTR 1321L and THTR 2313. May be repeated for up to 6 hours of degree credit.

**THTR 490V. Independent Study (Sp, Su, Fa). 1-3 Hour.**

Individually designed and conducted programs of reading and reporting under the guidance of a faculty member. Prerequisite: Instructor consent. May be repeated for up to 3 hours of degree credit.

**THTR 491V. Special Topics (Sp, Su, Fa). 1-3 Hour.**

Classes not listed in the regular curriculum, offered on demand on the basis of student needs and changes within the profession. May be repeated for degree credit.

**THTR 492V. Internship (Sp, Su, Fa). 1-12 Hour.**

A practical, experiential approach to performance and production using the internship program to provide training and experience more advanced than that provided during the normal school year. Students will outline a contract of specific requirements based upon that individual's needs, goals, and skills. Prerequisite: Instructor consent. May be repeated for up to 12 hours of degree credit.

**THTR 4953. Theatre Study in Britain (Su). 3 Hours.**

Study of the components of stage production through attending and critiquing a wide variety of classical, modern, and avant garde theatre productions in England; includes tours of London and historical British sites and seminars with British theatre artists.

**THTR 5123. Theatrical Design Rendering Techniques (Irregular). 3 Hours.**

Investigation of drawing and painting methods and materials useful to theatrical designers. Integration of graphic communication with overall production conceptualization will be explored through examination of various theatre styles and periods. May be repeated for up to 6 hours of degree credit.

**THTR 5143. History of Decor for the Stage (Irregular). 3 Hours.**

An overview of architectural decoration and its application to theatrical design from the Predynastic Period (4400-3200 B.C.) through the Art Deco period with references to contemporary decor. Prerequisite: Graduate standing.

**THTR 5183. Scene Design Studio (Fa). 3 Hours.**

Individual and advanced projects in designing scenery for various theatrical genres as well as non-theatrical applications with emphasis on the design process involving playscript analysis, text analysis, and research. Collaboration skills and advanced rendering techniques will be explored. Contributes to on-going portfolio development. Prerequisite: THTR 3653 or instructor consent. May be repeated for up to 6 hours of degree credit.

**THTR 5193. Scene Technology Studio (Sp). 3 Hours.**

Individual and advanced projects in scenic techniques with emphasis on scene painting, drafting, rendering, properties design, or scenic crafts as determined by student need. Contributes to on-going portfolio development. Prerequisite: Graduate standing or instructor consent. May be repeated for up to 9 hours of degree credit.

**THTR 5213. Costume Design (Irregular). 3 Hours.**

Advanced study of the art and practice of stage costume design. Emphasis on the expression of character through costume. Development of rendering and research skills. Portfolio development.

**THTR 5243. Costume Technology I (Irregular). 3 Hours.**

Advanced methods of costume construction techniques and the practice of theatrical pattern drafting will be explored through project work.

**THTR 5283. Costume Design Studio (Fa). 3 Hours.**

Individual and advanced projects in designing costumes for various theatrical genres with emphasis on the design process involving text interpretation, character analysis, and research. Collaboration skills and advanced rendering techniques will be explored. Contributes to on-going portfolio development. Prerequisite: THTR 3213 or THTR 5213 or instructor consent.

**THTR 5293. Costume Technology Studio (Sp). 3 Hours.**

Individual and advanced projects in costume construction and techniques with emphasis on flat pattern, draping, corsetry, tailoring or costume crafts as determined by student need. Contributes to on-going portfolio development. Prerequisite: Graduate standing or instructor consent. May be repeated for up to 9 hours of degree credit.

**THTR 5353. Stage Lighting Technology (Irregular). 3 Hours.**

The thorough examination of the technology of equipment that supports the art of stage lighting design: theory, operating principles and specification of lamps, fixtures, control systems and special effect hardware will be explored. Prerequisite: graduate standing.

**THTR 5363. Theatre Planning (Irregular). 3 Hours.**

A study of significant theatre buildings, modern and historical, and their relationship to contemporary theatre planning. Practical application of theory through design problems and evaluation. Graduate level research project/paper required.

**THTR 5383. Lighting Technology Studio (Sp). 3 Hours.**

Individual and advanced projects in lighting technology with emphasis on light sources, lighting control, equipment design and specification and the mechanics of lighting. Contributes to on-going portfolio development. Prerequisite: Graduate standing or instructor consent. May be repeated for up to 9 hours of degree credit.

**THTR 5393. Lighting Design Studio (Fa). 3 Hours.**

Individual projects in lighting design with emphasis on the design process involving script interpretation, design aesthetics and research. Lighting design applications to a variety of venues will be studied. Contributes to on-going portfolio development. Prerequisite: Graduate standing or instructor consent. May be repeated for up to 6 hours of degree credit.

**THTR 542V. Graduate Acting Studio (Irregular). 1-3 Hour.**

Provides actors with intensive opportunities to explore specific aspects of their craft. Sample topics include characterization, Chekhov, Pinter, Brecht, improvisation and mask work. Topics vary each semester. Prerequisite: Graduate standing in Drama. May be repeated for up to 18 hours of degree credit.

**THTR 5432. Graduate Voice and Speech I (Fa). 2 Hours.**

Teaches how to build clear vocal production using proper breath support, grounded in the Alexander technique. Emphasis on the connection between breath and thought, learning to undo inadequate vocal habits, and vocal hygiene. Prerequisite: Graduate standing in Drama. May be repeated for up to 4 hours of degree credit.

**THTR 5443. Graduate Acting: Period Styles (Sp). 3 Hours.**

Styles of acting in relation to French and English Dramatic Literature (16th-19th Centuries). This course also examines the historical and cultural influences that shaped each genre. A period dance component is included. Prerequisite: Graduate standing in Drama.

**THTR 545V. Musical Theatre Performance (Irregular). 1-3 Hour.**

Theory and techniques of performing a singing role for the theatre. Integrates acting and vocal techniques and examines the relationship between score and text. Prerequisite: Graduate standing in Drama.

**THTR 5463. Audition Techniques (Sp, Su, Fa). 3 Hours.**

A thorough study and practical application of audition skills and techniques. This course will equip the student with prepared audition pieces and experience in cold reading, on-camera work, and improvisation. The course also explores the practical needs of the actor; from how to get an audition to how to prepare a resume. Prerequisite: Graduate standing in Drama.

**THTR 5473. Graduate Acting: Shakespeare (Irregular). 3 Hours.**

Analysis of Shakespeare for performance. Work will include the plays of Shakespeare and his contemporaries, including cultural and theatrical contexts required for understanding the scripts. Prerequisite: Graduate standing in Drama.

**THTR 548V. Meisner Technique I (Irregular). 1-3 Hour.**

Acting theory and exercises of Sanford Meisner, including repetition work, connecting with partner, three moment game, activities, and emotional preparation.

**THTR 549V. Meisner Technique II (Irregular). 1-3 Hour.**

Continuation of Meisner Technique I. Incorporation of theory and advanced exercises of the Meisner Technique into the playing of text. Prerequisite: THTR 548V.

**THTR 5501. Research Techniques in Drama (Odd years, Fa). 1 Hour.**

Basic techniques of research and study in the fields of Drama and Theatre with consideration of the necessary interplay of intellectual and intuitive skills in mature artistry. Practice in the logical, semantic, and evidential work of scholarship and in the various research methodologies.

**THTR 5533. Graduate Playwriting: Special Projects (Irregular). 3 Hours.**

Advanced study and practice in the area of playwriting. The area of concentration will be determined by the student's specific writing project(s). Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

**THTR 5543. Creating a One-Person Show (Irregular). 3 Hours.**

Actors learn to use compelling personal experiences and interests in the creation of a unique one-person show. Includes exploration in characterization, staging and playwriting. Culminates in the public presentation of a short one-person show. Prerequisite: Graduate standing in Drama.

**THTR 5552. Graduate Voice and Speech II (Sp). 2 Hours.**

A continuation of Graduate Voice and Speech I, exploring more closely the connection between breath support and volume, pitch, range, resonance and articulation. Prerequisite: THTR 5432.

**THTR 5562. Graduate Voice and Speech III (Irregular). 2 Hours.**

Continuation of Graduate Voice and Speech II, focusing on the classification of vowels and consonants according to the International Phonetic Alphabet (IPA). Prerequisite: THTR 5552.

**THTR 5572. Graduate Voice and Speech IV (Irregular). 2 Hours.**

Continuation of Graduate Voice and Speech III. Extension of the application of the IPA to the analysis of different accents of individuals for whom English is a second language. Approximately eight dialects of English will be examined. Prerequisite: THTR 5562.

**THTR 5593. Acting and Directing Absurdist Theatre (Irregular). 3 Hours.**

This course focuses on a particular dramatic style that developed following World War II: Absurdism. In scene presentation projects, students will grapple with the unusual challenges acting and directing these plays, as well as explore the cultural contexts, philosophies and theatrical traditions that led to their invention. Prerequisite: Graduate standing in Drama.

**THTR 5613. Graduate Directing Principles (Irregular). 3 Hours.**

Theory and technique of directing realistic drama: script analysis; spatial considerations of composition and picturization; development in production of the Aristotelian concepts of plot, character, thought, diction, music (sound), and spectacle. Prerequisite: Graduate standing.

**THTR 562V. Seminar in Dramatic Art (Irregular). 1-9 Hour.**

Research, discussion and projects focusing on a variety of topics including theatre management, advanced acting methods, and specialized periods in dramatic literature. Prerequisite: Senior or graduate standing. May be repeated for up to 9 hours of degree credit.

**THTR 5663. Directing Modern Drama (Irregular). 3 Hours.**

Studio course exploring the challenges of directing post-19th Century dramatic literature. Individual projects in collaboration with actors. Sample dramatic literature includes styles such as Realism, Expressionism, Absurdism, post-Modernism and Epic Theatre. Topics vary each semester. Prerequisite: Graduate standing in Drama. May be repeated for up to 12 hours of degree credit.

**THTR 5673. Adapting and Directing Non-Theatrical Texts (Irregular). 3 Hours.**

Offers directors practice in the adaptation and staging of non-theatrical prose, poetry and current events. Individual projects in collaboration with actors. Prerequisite: Graduate standing in Drama.

**THTR 5683. Directing Studio (Sp, Fa). 3 Hours.**

Hands-on exploration into the direction of historical and contemporary texts and styles, including Greek, Roman, Shakespeare, Realism, American and international scripts and the adaptation of non-theatrical material. Topics vary each semester. Includes discussion and investigation of the theatrical arts and collaborative and production processes. Prerequisite: MFA Directing student or instructor consent. May be repeated for up to 6 hours of degree credit.

**THTR 5691. Scene Study for Directing Studio (Sp, Fa). 1 Hour.**

Participation as an actor in scenes presented for the graduate Directing Studio course. Varying historical and contemporary texts and styles each semester. Class meets one hour each week, plus outside rehearsals, depending on casting. Prerequisite: Instructor consent. May be repeated for up to 4 hours of degree credit.

**THTR 5713. Directing Classics (Irregular). 3 Hours.**

Explores the challenges of directing classic texts. Individual projects in collaboration with actors on a wide variety of pre-20th Century dramatic literature. Topics vary each semester. Prerequisite: Graduate standing in Drama. May be repeated for up to 12 hours of degree credit.

**THTR 5723. History of the Theatre I (Fa). 3 Hours.**

A comprehensive study of the theatre in different cultures and ages, as an institution, as an art, and as a vision of life.

**THTR 5733. History of the Theatre II (Sp). 3 Hours.**

A continuation of THTR 5723.

**THTR 5763. Dramatic Criticism (Irregular). 3 Hours.**

Analysis of critical theories from Aristotle to the present; interrelationships of theatre disciplines as well as the influence of the church, state, and press on dramatic criticism. Prerequisite: Senior or graduate standing.

**THTR 5783. Viewpoints (Irregular). 3 Hours.**

Exploration and application of the Viewpoints movement technique. Prerequisite: Graduate standing in Drama.

**THTR 581V. Theatre Production III (Sp, Su, Fa). 1-3 Hour.**

Participation in the process of production for the University Theatre mainstage at a supervisory level. Areas of involvement may include scenery, lighting, sound, makeup, marketing, etc. May be repeated for up to 6 hours of degree credit.

**THTR 590V. Independent Study (Sp, Su, Fa). 1-18 Hour.**

Individually designed and conducted programs of reading and reporting under guidance of a faculty member. May be repeated for up to 18 hours of degree credit.

**THTR 591V. Special Topics (Sp, Su, Fa). 1-3 Hour.**

Classes not listed in the regular curriculum, offered on demand on the basis of student needs and changes within the profession. Prerequisite: Graduate standing in Drama or Instructor consent required. May be repeated for degree credit.

**THTR 592V. Internship (Irregular). 1-6 Hour.**

Supervised practice in the various arts and crafts of the theatre (e.g. full design responsibility for a production; box office management; actor apprenticeship in a professional company).

**THTR 600V. Master's Thesis (Sp, Fa). 1-6 Hour.**

Master's Thesis. Prerequisite: Graduate standing. May be repeated for degree credit.

## U A Clinton School (UACS) Courses

**UACS 501V. Special Topics in Public Service (Irregular). 1-3 Hour.**

Designed to cover specialized topics not usually presented in depth in regular courses. May be repeated for up to 6 hours of degree credit.

**UACS 502V. Advanced Problems in Public Service (Irregular). 1-3 Hour.**

Provides an opportunity for individual study.

**UACS 5101. Ethical and Legal Dimensions of Public Service (Irregular). 1 Hour.**

This course will provide an overview of the primary ethical principles and legal concepts that guide difficult decisions in the public realm. Traditional academic study of ethical and legal theory will be combined with practical approaches to problem solving. Students will explore issues of economic, political, and social justice through case studies of current issues. Students will construct cases that are relevant to their own fields and present them to the class, identifying ethical and legal constraints on decision-making and implementation.

**UACS 5303. Communication Processes and Conflict Transformation (Irregular). 3 Hours.**

The course is designed to increase the student's personal communication effectiveness as a leader and public servant, and to enable students to understand the application of communication processes in the public arena.

**UACS 5313. Dynamics of Social Change (Irregular). 3 Hours.**

The course deals with the elements of social change in a democratic society, and how these intersect with and are affected by economic and political forces. A critical examination of the various justifications for promoting or discouraging social change will be undertaken, and the inherent strengths and weaknesses of these various approaches will be analyzed. Real-world cases will be used, and a culminating exercise will be a strategic assessment of the Lower Mississippi Delta.

**UACS 5323. Leadership in Public Service (Irregular). 3 Hours.**

This course is designed to increase students' knowledge of leadership concepts and best practices, provide opportunities and experiences that improve leadership skills and techniques, and enhance capabilities in organizational management. Students will assess their leadership strengths and weaknesses, as well as develop an action plan to match their career goals. They will improve knowledge and skills in building diverse teams, in initiating/managing change, in addressing uncertainty, and in leading non-governmental organizations. At the end of the course, students should be able to design leadership strategies to successfully address a spectrum of issues in public service and in promoting the community good.

**UACS 5333. Analysis for Decision Making In Public Service (Irregular). 3 Hours.**

This course is intended to provide students with analytical tools that enhance their skills in diagnosing problems and formulating solutions within organizations and communities. Instruction will focus on evaluating community assets as a balance to assessing community need. Underlying values of social justice and collaborative problem-solving provide a benchmark for these activities. Students, working in teams, will be challenged to apply their skills to cases related to affordable housing and homelessness.

## University (UNIV) Courses

**UNIV 1001. University Perspectives (Sp, Su, Fa). 1 Hour.**

A first-year "student success" course, this class will be taught with both an online component and classroom activities. The course is designed to teach/encourage critical thinking and civic engagement. Additionally, this class will explore strategies for dealing with stress and time management to promote solutions for maintaining a physically and mentally healthy body, and to develop communication and leadership skills to benefit students in their education and their careers.

This course is cross-listed with UNIV 1001H.

**UNIV 1001H. Honors University Perspectives (Sp, Su, Fa). 1 Hour.**

A first-year "student success" course, this class will be taught with both an online component and classroom activities. The course is designed to teach/encourage critical thinking and civic engagement. Additionally, this class will explore strategies for dealing with stress and time management to promote solutions for maintaining a physically and mentally healthy body, and to develop communication and leadership skills to benefit students in their education and their careers.

This course is cross-listed with UNIV 1001.

**UNIV 1011. Writing with Integrity for the Academic World (Sp, Fa). 1 Hour.**

An exploration of the principles and skills of writing with academic integrity in a collegiate setting. Aimed at preparing students to recognize the intellectual property of others and distinguish it from their own in the research and writing process with attention to the reading, research and writing processes, ethical decision making, and the nature and significance of intellectual property.

**UNIV 1021. College Learning II (Sp, Su, Fa). 1 Hour.**

UNIV 1021 complements EDUC 1012 by focusing on additional topics leading to student success, such as setting goals and implementing action plans, assessing interests and skills, investigating career possibilities, and developing financial literacy.

**UNIV 1031. Math Study Skills (Sp, Su, Fa). 1 Hour.**

Eight-week course designed for students experiencing difficulty in studying and learning the cognitive and behavioral dimensions of learning mathematics and includes topics such as memory and mathematics, translating mathematics, and math anxiety. Also recommended for math education majors.

**UNIV 110V. Independent Study (Irregular). 1-3 Hour.**

Allows students to explore selected topics on an individual basis.

**UNIV 1401. Career Exploration (Sp, Su, Fa). 1 Hour.**

This course allows students to graduate from the nationally recognized Professional Development Institute offered by the Career Development Center in an 8-week session as opposed to the traditional non-course option. Coursework will consist of 7 competencies including Self-Awareness, Career Exploration, Experience, Job Search Strategies, Resume/Cover Letter Writing, Interview Skills, and Professional Networking.

**UNIV 210V. Peer Mentoring Experience (Sp, Su, Fa). 1-2 Hour.**

The UNIV 210V Peer Mentoring Experience is an independent study course open to students selected as a mentor through the the required selection process. Student-mentors enrolled in this course will serve for the semester as a mentor for one or more UNIV 1001 University Perspectives course(s); meet with University Perspectives students who may need additional guidance; engage in required leadership development and training opportunities; read related research on leadership, development, peer mentoring, and first-year experience programs; and provide feedback on their experience as a mentor. Prerequisite: UNIV 1001 and instructor consent. May be repeated for up to 4 hours of degree credit.

**UNIV 3401. Career Planning and Professional Development for Juniors and Seniors (Irregular). 1 Hour.**

This course examines the career planning process of self-assessment, exploring career opportunities in the world of work and learning assertive job search strategies that result in the development of a "Life after College" career plan.

## University Connections Program (UCPG) Courses

**UCPG 0005. University Connections Intensive English (Sp, Su, Fa). 5 Hours.**

This class is part of the Intensive English Program designed for students who are in their first semester of the University Connections three-semester program. Not for degree credit. Prerequisite: Language assessment required.

## Walton College of Business (WCOB) Courses

**WCOB 1023. Business Foundations (Sp, Su, Fa). 3 Hours.**

Surveys the areas of business and presents business processes that are common to most enterprises through a hands-on, interactive business experience. Also develops the double-entry accounting framework that captures and reports information about business process performance. Topics include: analysis and recording of transactions, accounting cycle, and preparation of financial statements. Prerequisite: (WCOB 1120 or ISYS 1123 with a grade of C or better) and COMM 1313 with a grade of C or better (and WCOB 1111 or WCOB 1111H each with a grade of C or better, for Walton College majors only).

**WCOB 1023H. Honors Business Foundations (Sp). 3 Hours.**

Surveys the areas of business and presents business processes that are common to most enterprises through a hands-on, interactive business experience. Also develops the double-entry accounting framework that captures and reports information about business process performance. Topics include: analysis and recording of transactions, accounting cycle, and preparation of financial statements. Prerequisite: COMM 1313 with grade of C or better and WCOB 1120; and (WCOB 1111 with a grade of C or better for Walton College majors). This course is equivalent to WCOB 1023.

**WCOB 1033. Data Analysis and Interpretation (Sp, Su, Fa). 3 Hours.**

This is an introductory level course covering topics involving estimation of population characteristics, research design and hypothesis testing, as well as measuring and predicting relationships. The course should enable the students to develop an understanding regarding the application and interpretation of basic data analysis techniques with an emphasis on statistical applications. Prerequisite: ISYS 1120 or ISYS 1123, and MATH 2053 or MATH 2554, each with a grade of C or better.

**WCOB 1033H. Honors Data Analysis and Interpretation (Irregular). 3 Hours.**

This is an introductory level course covering topics involving estimation of population characteristics, research design and hypothesis testing, as well as measuring and predicting relationships. The course should enable the students to develop an understanding regarding the application and interpretation of basic data analysis techniques with an emphasis on statistical applications. Prerequisite: (ISYS 1120 or ISYS 1123) and MATH 2053 or MATH 2554, each with a grade of "C" or better. This course is equivalent to WCOB 1033.

**WCOB 1111. Freshman Business Connection (Fa). 1 Hour.**

Development of personal development skills, including time management; stress management and academic planning, necessary for success; introduction to business career options and opportunities.

**WCOB 1111H. Honors Freshman Business Connection (Irregular). 1 Hour.**

Development of personal development skills, including time management; stress management and academic planning, necessary for success; introduction to business career options and opportunities. Prerequisite: Honors standing. This course is equivalent to WCOB 1111.

**WCOB 1600. Undergraduate Research Assistant (Sp, Su, Fa). 0 Hours.**

Undergraduate research.

**WCOB 2013. Markets and Consumers (Sp, Su, Fa). 3 Hours.**

Key decisions required to understand the existence of markets and how buyers within those markets may be accessed profitably. Key concepts include an overview of competitive markets, buyer behavior, developing new markets and products, promotion and distribution channels, pricing and profitability concepts, the sales and collections process, and strategic planning. WCOB 1012 was a previous prerequisite for this course, and is equivalent to BLAW 2013. Prerequisite: WCOB 1023, WCOB 1033, ECON 2023 and BLAW 2013 or equivalent, each with a grade of "C" or better.

**WCOB 2013H. Honors Markets and Consumers (Irregular). 3 Hours.**

Key decisions required to understand the existence of markets and how buyers within those markets may be accessed profitably. Key concepts include an overview of competitive markets, buyer behavior, developing new markets and products, promotion and distribution channels, pricing and profitability concepts, the sales and collections process, and strategic planning. WCOB 1012 was a previous prerequisite for this course, and is equivalent to BLAW 2013. Prerequisite: WCOB 1023, WCOB 1033, ECON 2023, and BLAW 2013 or equivalent, each with a grade of "C" or better.

This course is equivalent to WCOB 2013.

**WCOB 2023. Production and Delivery of Goods and Services (Sp, Su, Fa). 3 Hours.**

This course is designed to provide students with a broad understanding of the production and delivery of goods/services. The course focuses on concepts and methodologies for managing the flow of material and information throughout the production and delivery of goods/services. WCOB 1012 was the previous prerequisite for this course, and is equivalent to BLAW 2013. Prerequisite: WCOB 1023, WCOB 1033, ECON 2023, and BLAW 2013 or equivalent, each with a grade of C or better.

**WCOB 2033. Acquiring and Managing Human Capital (Sp, Su, Fa). 3 Hours.**

Study of the process of acquiring and managing human resources, focusing on the organizational behavior, legal, economic, and technical issues concerned with business decisions about acquiring, motivating, and retaining employees; emphasis given to the development, implementation, and assessment of policies and practices consistent with legal, social, human, and environmental dynamics. WCOB 1012 was the previous prerequisite for this course, and is equivalent to BLAW 2013. Prerequisite: WCOB 1023, WCOB 1033, ECON 2023, and BLAW 2013 or equivalent, each with a grade of C or better.

**WCOB 2033H. Honors Acquiring and Managing Human Capital (Irregular). 3 Hours.**

Study of the process of acquiring and managing human resources, focusing on the organizational behavior, legal, economic, and technical issues concerned with business decisions about acquiring, motivating, and retaining employees; emphasis given to the development, implementation, and assessment of policies and practices consistent with legal, social, human, and environmental dynamics. WCOB 1012 was the previous prerequisite for this course, and is equivalent to BLAW 2013. Prerequisite: WCOB 1023, WCOB 1033, ECON 2023, and BLAW 2013 or equivalent, each with a grade of C or better. This course is equivalent to WCOB 2033.

**WCOB 2043. Acquiring and Managing Financial Resources (Sp, Su, Fa). 3 Hours.**

Key decisions within business processes related to the acquisition and management of capital resources, including decisions regarding what to acquire, how to finance the acquisition, and issues related to the accounting for those capital resources. The identification of key decisions leads to decision models and the identification of information needs. WCOB 1012 was the previous prerequisite for this course, and is equivalent to BLAW 2013. Prerequisite: WCOB 1023, WCOB 1033, ECON 2023, and BLAW 2013 or equivalent, each with a grade of C or better.

**WCOB 2063. Workplace Competencies (Irregular). 3 Hours.**

This online course identifies the skills necessary to be successful as a professional in the workforce. Employers expect new college graduates to possess certain competencies. This course identifies and creates opportunities for the development of the skills most often valued in the workplace, including working in a team structure; goal setting; decision making and problem solving; planning, organizing and prioritizing work; power, persuasion and oral communication; obtaining and processing relevant data; technical skills evaluation; written communications skills; workplace image and attitude; corporate values and workplace ethics; and influencing others at a new job.

**WCOB 210V. Special Topics in Business (Sp). 3-6 Hour.**

Special topics of an interdisciplinary nature. May be repeated for up to 6 hours of degree credit.

**WCOB 230V. Walton College Study Abroad (Irregular). 3-6 Hour.**

Open to undergraduate students studying abroad in officially sanctioned programs in Walton College. Topics vary by location of study abroad opportunities. Prerequisite: Departmental consent. May be repeated for up to 12 hours of degree credit.

**WCOB 230VH. Honors Walton College Study Abroad (Irregular). 3-6 Hour.**

Open to undergraduate students studying abroad in officially sanctioned programs in Walton College. Topics vary by location of study abroad opportunities. Prerequisite: Honors standing and departmental consent. May be repeated for up to 12 hours of degree credit.

This course is equivalent to WCOB 230V.

**WCOB 2600. Undergraduate Research Assistant (Sp, Su, Fa). 0 Hours.**

Undergraduate research.

**WCOB 3003H. Honors College Colloquium (Sp, Fa). 3 Hours.**

An inter-disciplinary course exploring events, concepts, and/or new developments in the field of business administration. Prerequisite: Junior or senior standing. May be repeated for up to 6 hours of degree credit.

**WCOB 3016. Business Strategy and Planning (Sp, Fa). 6 Hours.**

Integrative study of the managerial decisions; introduces students to an understanding of strategic competitiveness and the way in which business strategy is formulated and implemented; uses a combination of theoretical and experiential approaches to designing business plans for key decisions, implementing these decisions, and monitoring their effects. Prerequisite: A business student must complete the pre-business requirements before enrolling for this course. WCOB 2013, WCOB 2023, WCOB 2033, and WCOB 2043 must each be completed with a grade of "C" or better. This course is restricted to Walton College students.

**WCOB 3016H. Honors Business Strategy and Planning (Fa). 6 Hours.**

Integrative study of the managerial decisions; introduces students to an understanding of strategic competitiveness and the way in which business strategy is formulated and implemented; uses a combination of theoretical and experiential approaches to designing business plans for key decisions, implementing these decisions, and monitoring their effects. Prerequisite: a business student must complete the pre-business requirements before enrolling for this course. WCOB 2013, WCOB 2023, WCOB 2033, and WCOB 2043 must each be completed with a grade of "C" or better. This course is restricted to Walton College students. This course is equivalent to WCOB 3016.

**WCOB 3023. Sustainability in Business (Irregular). 3 Hours.**

The course focuses on theoretical and practical bases for pursuing sustainability in business and society. Students learn four definitions of sustainability, measured on four axes expressed by: 1987 UN Brundtland Report (intergenerational equity), Triple-play (people, planet, profits), resource sustainability, and economic justice (fair global system of rules, fairly enforced). Prerequisite: Junior standing.

**WCOB 3033. The African American Experience in Business (Irregular). 3 Hours.**

This course is designed to provide the student with a comprehensive and critical analysis of the history of the African American experience as a member of the business sector of the United States economics. The course will review information that includes and demonstrates activities prior to slavery, during, and after slavery. This course is cross-listed with AAST 3033.

**WCOB 3043. From Books to Boardrooms (Sp, Su, Fa). 3 Hours.**

Examines career choices and skills necessary to be successful as a professional in the workforce. Self-assessment and career exploration strategies are examined using career development theories. Incorporates career path management principles to include exploring occupations, networking, enhancing business communications, job searching, workplace success skills, and college to work transition. Business majors may not use course towards upper level business credit, but may be used toward non-business elective credit. Prerequisite: Junior standing.

**WCOB 3053. Diversity in the Workforce (Odd years, Sp). 3 Hours.**

This course is designed to engage students in discussions and to increase their awareness and knowledge about barriers and contributions of underrepresented groups. This course will cover race, class, gender, sexuality, ethnicity, nationality, and physical differences that impacts underrepresented groups and how this information can influence that work environment. The course involves weekly discussion, critical evaluation, and reflection of the subjects that are covered in the assignments. Prerequisite: Junior Standing.

**WCOB 310V. Cooperative Education (Sp, Su, Fa). 1-3 Hour.**

Co-op allows students to earn one or two hours of credit per semester for work related to their major. Accumulated credit may not exceed six hours. Eligibility requires: 1) junior standing in the college, 2) completion of the pre-business core and 3) the prescribed GPA. See catalog for details. Prerequisite: Junior standing and completion of pre-business core. May be repeated for up to 6 hours of degree credit.

**WCOB 320V. International Internship (Sp, Su, Fa). 1-3 Hour.**

The International Internship allows students to work overseas with a pre-approved employer. Students must have a faculty supervisor who will work with their employer to monitor their work experience and progress. Students are responsible for finding a faculty supervisor, and the Global Engagement Office will work with both the student and faculty member to facilitate the employer relationship and expectations. Students will receive one to three hours of credit per semester based on hours worked and length of time abroad. Students may receive up to three hours of credit. Prerequisite: Junior Standing, 3.0 cumulative GPA, and Department Consent. May be repeated for up to 3 hours of degree credit.

**WCOB 330V. Walton College Study Abroad (Irregular). 3-6 Hour.**

Open to undergraduate students studying abroad in officially sanctioned programs in the Walton College. Topics vary by location of study abroad opportunities. To be eligible for credit, students must have junior standing and Walton College majors must have completed all pre-business requirements prior to studying abroad. Prerequisite: Departmental consent, Junior standing and completion of pre-business course requirements, each with a grade of C or better, a pre-business cumulative GPA of 2.5 or better and an overall GPA of 2.5 or better. May be repeated for up to 12 hours of degree credit.

**WCOB 330VH. Honors Walton College Study Abroad (Irregular). 3-6 Hour.**

Open to undergraduate students studying abroad in officially sanctioned programs in the Walton College. Topics vary by location of study abroad opportunities. To be eligible for credit, students must have junior standing and Walton College majors must have completed all pre-business requirements prior to studying abroad. Prerequisite: Honors standing, departmental consent, Junior standing and completion of pre-business course requirements, each with a grade of C or better, a pre-business cumulative GPA of 2.5 or better and an overall GPA of 2.5 or better. May be repeated for up to 12 hours of degree credit.

This course is equivalent to WCOB 330V.

**WCOB 3600. Undergraduate Research Assistant (Sp, Su, Fa). 0 Hours.**

Undergraduate research.

**WCOB 410V. Special Topics in Business (Irregular). 1-6 Hour.**

Special business topics of an interdisciplinary nature. May be repeated for up to 6 hours of degree credit.

**WCOB 410VH. Honors special Topics in Business (Irregular). 1-6 Hour.**

Special business topics of an interdisciplinary nature. May be repeated for up to 6 hours of degree credit.

This course is equivalent to WCOB 410V.

**WCOB 455V. Service Learning Practicum (Sp, Su, Fa). 1-3 Hour.**

Through participation in this practicum, students learn while providing services that benefit the community. The goal is for students to learn, practice, and teach the principles of free enterprise. The students assess community needs and design service projects that enable them to apply course content knowledge while developing organizational, communication, time-management, and leadership skills. May be repeated for up to 6 hours of degree credit.

**WCOB 4600. Undergraduate Research Assistant (Sp, Su, Fa). 0 Hours.**

Undergraduate research.

**WCOB 4993H. Honors Thesis (Sp, Fa). 3 Hours.**

Provides Honors Students with an opportunity to explore a business topic in depth through an independent research project. Prerequisite: Good standing in the Walton College Honors Program.

**WCOB 5023. Sustainability in Business (Sp, Fa). 3 Hours.**

The course focuses on theoretical and practical bases for pursuing sustainability in business and society.

**WCOB 510V. Special Topics in Business (Irregular). 1-3 Hour.**

Special business topics of an interdisciplinary nature. May be repeated for up to 6 hours of degree credit.

**WCOB 5843. Cross-Sector Collaboration for Sustainability (Irregular). 3 Hours.**

This course explores how organizations in the three sectors of society work together in value creation by addressing social and environmental problems. Focusing on business and nonprofit organizations, we investigate the forces that bring about and influence these collaborations from practical and theoretical perspectives, and managerial responses to collaboration challenges. Prerequisite: Graduate Status.

**WCOB 6111. Seminar in Business Administration Teaching I (Fa). 1 Hour.**

This course in college level teaching is designed for graduate students and new college teachers with specific emphasis on the Business Administration learning and classroom management. The purpose of this course is to introduce graduate students to principles of teaching and learning and to prepare these future teachers to lifelong learners in the classroom as teachers. Prerequisite: Graduate standing.

## World Languages, Literatures and Cultures (WLLC) Courses

**WLLC 2413. Migrant Experiences in Multicultural Europe (Irregular). 3 Hours.**

Introduction to the great diversity of Europe. Through three five-week units, students will participate in discussions regarding the identity of the inhabitants of France, Germany, and Italy. The course is team taught by faculty in French, German, and Italian. Does not count toward the foreign language requirement.

**WLLC 3173. Introduction to Linguistics (Irregular). 3 Hours.**

Introduction to language study with stress upon modern linguistic theory and analysis. Data drawn from various languages reveal linguistic universals as well as phonological, syntactic, and semantic systems of individual languages. Related topics: language history, dialectology, language and its relation to culture and society, the history of linguistic scholarship. Prerequisite: Junior standing.

This course is cross-listed with ANTH 3173, COMM 3173, ENGL 3173.

**WLLC 3923H. Honors Colloquium (Irregular). 3 Hours.**

Covers a special topic or issue, offered as part of the honors program. Prerequisite: Honors candidacy (not restricted to candidacy in foreign languages). May be repeated for degree credit.

**WLLC 398V. Special Studies (Irregular). 1-6 Hour.**

A course (not independent study) which covers a topic or author not usually presented in depth in regular courses. May be repeated for degree credit.

**WLLC 4013. Native American Languages and Cultures (Fa). 3 Hours.**

Focuses on one of the major Native American groups from the southeast and midwest including the Quapaws, the Choctaws, the Caddos, and the Osages. Introduces the selected Native American group's language, culture, history and literature. Content varies each semester. May be repeated for up to 6 hours of degree credit.

**WLLC 4023. Languages, Cultures, and Teaching with Technology (Irregular). 3 Hours.**

This course provides senior level undergraduate and graduate students with innovative ways to teach and communicate through the use of modern technologies as applied to second languages. Topics of discussion include instructional systems design, Web 2.0 technologies, presentation technologies, online facilitation, and pedagogical strategies for using technological tools in language and culture courses. Prerequisite: Senior standing.

**WLLC 4023H. Honors Language, Culture and Web 2.0 Technologies (Sp). 3 Hours.**

This course provides senior level undergraduate and graduate students with innovative ways to teach and communicate through the use of Web 2.0 technologies as applied to second languages. Topics of discussion include instructional systems design, Web 2.0 technologies (blogs, wikis, Facebook, and other interactive tools), presentation technologies, online facilitation, and effective utilization of technological tools in language and culture courses. Prerequisite: Senior standing. This course is equivalent to WLLC 4023.

**WLLC 4033. Languages, Cultures and Teaching with Video (Irregular). 3 Hours.**

This course provides senior level undergraduates and graduate students with the knowledge and skills needed to teach and communicate through the use of video as applied to second languages. Topics of discussion include instructional systems design, development of strong pedagogical strategies for teaching with film, analysis of research focused on subtitling, learning strategies, mental effort, and language and culture development, as well as some videotaping and editing. Prerequisite: Senior standing.

**WLLC 4033H. Honors Language, Culture and Video Development (Irregular). 3 Hours.**

This course provides senior level undergraduates and graduate students with the knowledge and skills needed to teach and communicate through the use of video as applied to second languages. Topics of discussion include instructional systems design, videotaping, editing and development for internet and DVD delivery, and effective utilization of video in teaching and communication. Prerequisite: Senior standing.

This course is equivalent to WLLC 4033.

**WLLC 4043. The Early French in North America (Fa). 3 Hours.**

This course focuses on French exploration in North America from 1508 until 1698. Activities for both French and non-French speaking students provide a rich environment to discuss first encounters, cultural differences, and colonization struggles throughout New France by indigenous peoples, missionaries, military and colonists alike. This course strongly familiarizes students with historic events leading up to beginnings of Colonial French Arkansas and Lower Mississippi Valley. Prerequisite: FREN 2013 or equivalent.

**WLLC 4043H. Honors New France Archival Studies (Irregular). 3 Hours.**

Focuses on historic French record in New France between 1534-1673. Examination of French transcriptions, vocabulary and grammatical structures support students' ability to read and comprehend original French historic record in authentic form and familiarize students with historic events leading up to beginnings of Colonial French Arkansas and Lower Mississippi Valley. Prerequisite: FREN 2013 or equivalent. This course is equivalent to WLLC 4043.

**WLLC 4053. The Colonial French in the Mississippi Valley (Sp). 3 Hours.**

This course focuses on the French Colonial Mississippi Valley from 1698 until 1763. Activities for both French and non-French speaking students provide a rich environment to discuss encounters, subsistence strategies, and warfare faced by native peoples, missionaries, explorers, and colonists alike. Students will examine primary handwritten, transcribed, or translated sources. Prerequisite: FREN 2013 or equivalent.

This course is cross-listed with WLLC 4053H, HIST 4593.

**WLLC 4053H. Honors The Colonial French in the Mississippi Valley (Sp). 3 Hours.**

This course focuses on the French Colonial Mississippi Valley from 1698 until 1763. Activities for both French and non-French speaking students provide a rich environment to discuss encounters, subsistence strategies, and warfare faced by native peoples, missionaries, explorers, and colonists alike. Students will examine primary handwritten, transcribed, or translated sources. Prerequisite: FREN 2013 or equivalent.

This course is cross-listed with WLLC 4053, HIST 4593.

**WLLC 4073. African Sociolinguistics (Irregular). 3 Hours.**

Explores how language use intersects, constructs, and reflects social life in Africa. Covers key topics in sociolinguistics as they apply to current sociolinguistic issues on the African continent today.

This course is cross-listed with AAST 4073, ANTH 4073.

**WLLC 423V. Culture and Civilization: Field Studies (Irregular). 1-18 Hour.**

May be taken by students participating in overseas work study programs approved by the department. May be repeated for degree credit.

**WLLC 423VH. Honors Culture and Civilization: Field Studies (Irregular). 1-18 Hour.**

May be taken by students participating in overseas work study programs approved by the department. May be repeated for degree credit.

This course is equivalent to WLLC 423V.

**WLLC 504V. Translation Workshop (Irregular). 1-6 Hour.**

Problems of translation and the role of the translator as both scholar and creative writer; involves primarily the discussion in workshop of the translations of poetry, drama, and fiction done by the students, some emphasis upon comparative studies of existing translations of well-known works. Primary material will vary. Prerequisite: Reading knowledge of a foreign language.

This course is cross-listed with ENGL 5043.

**WLLC 5063. Teaching Foreign Languages on the College Level (Irregular). 3 Hours.**

Focus on basic methodological concepts and their practical application to college foreign language instruction.

**WLLC 5463. Descriptive Linguistics (Fa). 3 Hours.**

A scientific study of language with primary emphasis on modern linguistic theory and analysis. Topics include phonology, morphology, syntax, semantics, language acquisition, and historical development of world languages.

This course is cross-listed with ANTH 5473, ENGL 5463.

**WLLC 575V. Special Investigations (Irregular). 1-6 Hour.**

Special investigations in world languages, literatures and cultures. May be repeated for up to 6 hours of degree credit.

## World Literature (WLIT)

### Courses

**WLIT 1113. World Literature I (ACTS Equivalency = ENGL 2113) (Sp, Su, Fa). 3 Hours.**

An introduction to literature from the beginning of civilization to about 1650.

**WLIT 1113H. Honors World Literature I (Sp, Su, Fa). 3 Hours.**

Introduction to the study of both western and non-western literature. Prerequisite: Participation in Fulbright College Scholars Program or English ACT score of 28 or above.

This course is equivalent to WLIT 1113.

**WLIT 1123. World Literature II (ACTS Equivalency = ENGL 2123) (Sp, Su, Fa). 3 Hours.**

An introduction to literature from 1650 to the present.

**WLIT 1123H. Honors World Literature II (Sp, Su, Fa). 3 Hours.**

A continuation of the study of literary masterpieces of the world. Prerequisite: Participation in the Fulbright College Scholars Program or English ACT score of 28 or above.

This course is equivalent to WLIT 1123.

**WLIT 3523. The Quran as Literature (Irregular). 3 Hours.**

The Quran as literary text, its style and form, historical context, translation issues, communities of interpretation, and comparative perspectives. Course's integrated approach includes translations of literature originally in Arabic. All readings in English; students with reading abilities in Arabic encouraged to read original text.

**WLIT 3623. The Bible as Literature (Irregular). 3 Hours.**

The several translations of the Bible; its qualities as great literature; its influence upon literature in English; types of literary forms.

This course is cross-listed with ENGL 3623.

**WLIT 3713. Literature of Spain (Irregular). 3 Hours.**

Examines the multiple cultural traditions of Spain between 711 and 1615 C.E. Course's integrated approach includes translation of literature originally in Arabic (50%+ of course content), Hebrew, Spanish, and French. All readings in English; students with reading abilities in original languages encouraged to read original text.

**WLIT 3723. Classical Arabic Literature (Irregular). 3 Hours.**

Arabic literature from the 1) pre-Islamic era; 2) dawn of Islam, 610-661 C.E.; 3) Umayyad era, 661-750; Abbasid era, peaking in the ninth and tenth centuries. May include selected post-classical but pre-modern works. No Arabic required; students with Arabic encouraged to engage original text.

**WLIT 3723H. Honors Classical Arabic Literature (Irregular). 3 Hours.**

Arabic literature from the 1) pre-Islamic era; 2) dawn of Islam, 610-661 C.E.; 3) Umayyad era, 661-750; Abbasid era, peaking in the ninth and tenth centuries. May include selected post-classical but pre-modern works. No Arabic required; students with Arabic encouraged to engage original text.

This course is equivalent to WLIT 3723.

**WLIT 3983. Special Studies (Irregular). 3 Hours.**

Covers a topic not usually presented in depth in regular courses. Not an independent study. May be repeated for up to 6 hours of degree credit.

**WLIT 4123. Survey of Russian Literature from Its Beginning to the 1917 Revolution (Irregular). 3 Hours.**

The instructor will discuss the historical and cultural backgrounds while focusing on major writers and will deal with literature as an outlet for social criticism. There will be textual analysis. It will be taught in English.

This course is cross-listed with RUSS 4123.

**WLIT 4133. Survey of Russian Literature Since the 1917 Revolution (Irregular). 3 Hours.**

The instructor will discuss the historical and cultural backgrounds while focusing on major writers and will deal with literature as an outlet for social criticism. There will be textual analysis. It will be taught in English with readings in English.

This course is cross-listed with RUSS 4133.

**WLIT 4993. African Literature (Irregular). 3 Hours.**

A study of modern African fiction, drama, poetry, and film from various parts of Africa in their cultural context. Works are in English or English translation.

**WLIT 5193. Introduction to Comparative Literature (Irregular). 3 Hours.**

Literary theory, genres, movements, and influences. Prerequisite: WLIT 1113.

**WLIT 5523. The Quran as Literature (Irregular). 3 Hours.**

The Quran as literary text: its style and form, historical context, translation, issues, communities of interpretation, and comparative perspectives. Course's integrated approach includes translations of literature originally in Arabic. All readings in English; students with reading abilities in Arabic encouraged to read original text.



**WLIT 5623. The Bible as Literature (Irregular). 3 Hours.**

The several translations of the Bible; its qualities as great literature; its influence upon literature in English; types of literary forms.

This course is cross-listed with ENGL 5623.

**WLIT 575V. Special Investigations on World Literatures and Cultures (Irregular). 1-6 Hour.**

Independent study of a special topic in world literatures and cultures. Prerequisite: Graduate standing. May be repeated for up to 6 hours of degree credit.

**WLIT 600V. Master's Thesis (Sp, Su, Fa). 1-6 Hour.**

Master's Thesis. May be repeated for degree credit.

**WLIT 603V. Special Studies in Comparative Literature (Irregular). 1-6 Hour.**

May be repeated for up to 6 hours of degree credit.

**WLIT 6703. Psychoanalysis and Culture (Irregular). 3 Hours.**

Readings of key texts in Psychoanalytic thought and cultural criticism including Freud, Lacan, Kristeva, Certeau, Zizek, and others. Selections of Psychoanalytic approaches to literature, film and gender and trauma studies.

**WLIT 6713. Literature of Spain, 711-1615 C.E. (Irregular). 3 Hours.**

Examines the multiple cultural traditions of Spain between 711-1615 C.E. and train to produce scholarship pertinent to the field. Integrated approach includes English translations of literature originally in Arabic (50%+ of content), Hebrew, Spanish, French. Students with reading abilities in original languages encouraged to read original text.

**WLIT 6803. Postcolonial Theory and Subaltern Studies (Irregular). 3 Hours.**

Seminar examining the geopolitical (imperial, colonial and national) implications of knowledge and culture. Selected readings of early postcolonial texts by Césaire, Fanon, and Fernández Retamar, as well as more recent texts by Said, Spivak, Bhabha, Mignolo, Beverly and Chakrabarty among others. May be repeated for up to 6 hours of degree credit.

**WLIT 690V. Seminar (Irregular). 1-6 Hour.**

May be repeated for up to 6 hours of degree credit.

**WLIT 700V. Doctoral Dissertation (Sp, Su, Fa). 1-18 Hour.**

Doctoral Dissertation. May be repeated for degree credit.

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