



Undergraduate Bulletin



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About the Bulletin

Inquiries

Address inquiries concerning:

Admissions "information", campus tours, and transfer of credits to the Office of Admissions, The University of Akron, Akron, OH, 44325-2001. (330) 972-7100, or toll-free, (800) 655-4884. FAX (330) 972-7022.

Financial aid, scholarships, and loans to the Office of Student Financial Aid, The University of Akron, Akron, OH 44325-6211. (330) 972-7032. Toll free (800) 621-3847. Fax (330) 972-7139.

Athletics to the Director of Athletics, The University of Akron, Akron, OH, 44325-5201. (330) 972-7080.

Registration, records, graduation, DARS, scheduling and Ohio Residency to the Office of the University Registrar, The University of Akron, Akron, OH 44325-6208. (330) 972-8300.

Graduate study to the Graduate School, The University of Akron, Akron, OH 44325-2101. (330) 972-7663.

The University switchboard number is (330) 972-7111.

Accredited By

NCA Higher Learning Commission
Dr. Sylvia Manning, President
230 S. LaSalle Street, Suite 7-500
Chicago, IL 60604
800-621-7440

www.ncahigherlearningcommission.org

For information on accreditation or to review copies of the accreditation documents, contact the Vice Provost for Academic Programs and Operations, The University of Akron, Buchtel Hall 106, Akron, OH 44325-4703; (330) 972-8584.

Disclaimer

While every effort is made to provide accurate and up-to-date information, the University reserves the right to change, without notice, statements in the Bulletin series which include, but are not limited to rules, policies, procedures, fees, curricula, courses, programs, activities, services, schedules, course availability, or other matters. For example, programs may be modified due to limited resources or facilities, unavailability of faculty, insufficient enrollment, or other such reasons as the University deems necessary.

Please note that editions of this Undergraduate Bulletin prior to 1994-95 were titled the "General Bulletin."

Equal Education and Employment Institution

Operating under nondiscrimination provisions of Titles VI, VII, of the Civil Rights Act of 1964 as amended and IX of the Educational Amendments of 1972 as amended. Executive Order 11246, Vocational Rehabilitation Act Section 504, Vietnam Era Veterans' Readjustment Act, and Americans with Disabilities Act of 1990 as related to admissions, treatment of students, and employment practices. It is the policy of this institution that there shall be no unlawful discrimination against any individual at The University of Akron because of race, color, creed, sex, age, national origin, handicap or status as a veteran. The University of Akron will not tolerate sexual harassment of any form in its programs and activities, and prohibits discrimination on the basis of sexual orientation in employment and admissions. The nondiscrimination policy applies to all students, faculty, staff, employees and applicants. Complaints of possible sex and other forms of discrimination should be referred to:

EEO/AA Office

ASB, Room 138B
Akron, OH 44325-4709
Phone: (330) 972-7300

Title IX - Issues for Students

Denine Rocco, Deputy Title IX Coordinator, Student Union, Room 306, (330) 972-6048

Title IX - Issues for Employees

Mark Stasitis, Deputy Title IX Coordinator, ASB, Room 125N, (330) 972-2352

Title IX - Policy Information and inquiries concerning the application of Title IX

Becky Hoover, Title IX Coordinator, Leigh Hall, Room 412, (330) 972-6462

or

The United States Department of Education, Office of Civil Rights
Policy Information on the Americans with Disabilities Act may be obtained from

ADA Coordinator
ASB 140B
Phone: (330) 972-5146

The *Undergraduate Bulletin* is published once each year by the Office of the Senior Vice President, Provost and C.O.O., Buchtel Hall 102.

Academic Calendar

<http://www.uakron.edu/registrar/docs/AcadCal.pdf>

July 2013

1	Graduation applications due for students completing Associate or Baccalaureate degree requirements by the end of Fall Semester 2013
1	School of Law Summer 2013 1st 5-week session ends
4	Independence Day observance - University closed
8	Deadline for preliminary submission of master's theses to Graduate School for Summer 2013 graduation
14	Summer Session 2013 1st 5-week session classes end
15	Summer Session 2013 2nd 5-week classes begin
22	Deadline for final submission of theses and dissertations to Graduate School for Summer 2013 graduation

August 2013

2	School of Law Summer 2013 10-week session ends & 2nd 5-week ends
4	School of Law Summer 2013 Intersession II begins
4	Summer Session 2013 8-week session classes end
17	Summer 2013 Commencement
18	Summer Session 2013 2nd 5-week session classes end
18	School of Law Summer 2013 Intersession II ends
19	School of Law Fall Semester 2013 classes begin for entering students (orientation week)
19-20	Sixty Plus (60+) in-person Fall Semester 2013 registration
20	Final grades due for Summer Session 2013
26	Fall Semester 2013 classes begin
26	School of Law Fall Semester 2013 classes begin

September 2013

2	Labor Day Holiday - University closed
9	Last day to drop Fall Semester 2013 classes without "WD" appearing on transcript
October 2013	
1	Graduation applications due for students completing Graduate degree requirements by the end of Fall Semester 2013
13	Last day to process course withdrawals for Fall Semester 2013 (11:59pm)
TBA	Spring 2014 Registration begins
21	Deadline for preliminary submission of doctoral dissertations to Graduate School for Fall 2013 graduation
November 2013	
1	Graduation applications due for students completing Law degree requirements by the end of Spring Semester 2014
4	Deadline for preliminary submission of master's these to Graduate School for Fall 2013 graduation
11	Veteran's Day Observance - Staff Holiday - Classes Held
18	Deadline for final submission of theses and dissertations to Graduate School for Fall 2013 graduation
27	School of Law final instructional day for Fall Semester 2013
11/28-12/1	Thanksgiving recess - University closes at 5:00 pm, Nov. 27
December 2013	
1	Graduation applications due for students completing Associate or Baccalaureate degree requirements by the end of Spring Semester 2014
2	Fall Semester 2013 classes resume from Thanksgiving recess
TBA	Admission deadline to University, Summit, Upper colleges and Graduate School for Spring 2014
4-14	School of Law Final Semester 2013 final examination period
8	Final instructional day for Fall Semester 2013
9-15	Final examination period for Fall Semester 2013
13-14	Fall 2013 Commencement

17	All grade changes and incomplete make-ups for previous term due in the Office of the University Registrar (5:00pm)
17	Final grades due for Fall Semester 2013
24-25	Christmas Holiday observance - University closed
January 2014	
1	New Years Day observance - University closed
9-10	Sixty Plus (60+) in-person Spring Semester 2014 registration
13	Spring Semester 2014 classes begin
13	School of Law Spring Semester 2014 classes begin
19	Last day to add courses for Spring Semester 2014 without signatures
20	Martin Luther King, Jr. Day observance - University closed
27	Last day to drop Spring Semester 2014 classes without "WD" appearing on transcript
February 2014	
18	President's Day observance - classes cancelled (Law School classes held)
March 2014	
1	Graduation applications due for students completing Graduate degree requirements by the end of Spring Semester 2014
2	Last day to process course withdrawals for Spring Semester 2014 (11:59pm)
TBA	Summer Session 2014 Registration begins
10	Deadline for preliminary submission of doctoral dissertations to Graduate School for Spring 2014 graduation
24	Deadline for preliminary submission of master's theses to Graduate school for Spring 2014 graduation
24-30	Spring Semester 2014 recess
24-30	School of Law Spring Semester 2014 recess
31	Spring Semester 2014 classes resume from Spring recess
April 2014	
TBA	Fall Semester 2014 Registration begins

1	Graduation applications due for students completing Associate or Baccalaureate degree requirements by the end of the Summer Session 2014
7	Deadline for final submission of theses and dissertations to Graduate School for Spring Semester 2014 graduation
25	School of Law final instruction day for Spring Semester 2014
4/30-5/10	School of Law Spring Semester 2014 final examination period
May 2014	
4	Final instructional day for Spring Semester 2014
5-11	Final examination period for Spring Semester 2014
9-11	Spring 2014 Commencement
11	School of Law Summer 2014 Intersession I begins
13	All grade changes and incomplete make-ups for previous term due in the Office of the University Registrar (5:00pm)
13	Final grades due for Spring Semester 2014
15-16	Sixty Plus (60+) in-person Summer Session 2014 registration
18	School of Law Spring 2014 Commencement
19	Summer Intersession 2014 classes begin
25	School of Law Summer 2014 Intersession I ends
26	Memorial Day observance - University closed
27	School of Law Summer 2014 classes begin (1st 5-week and 10-week sessions begin)
June 2014	
1	Graduation applications due for students completing Graduate degree requirements by the end of Summer Semester 2014
8	Summer Intersession 2014 classes end
9	Summer Session 2014 1st 5-week session and 8-week session classes begin
16	Deadline for preliminary submission of doctoral dissertations to Graduate School for Summer 2014 graduation
30	Deadline for preliminary submission of master's theses to Graduate School for Summer 2014 graduation

General Information

Location

The University is situated in a large metropolitan area. The campus, although centrally located within the City of Akron, features park-like pedestrian areas. Students have easy access to retail outlets, transportation, and churches. The University of Akron is located between East Market Street and East Exchange Street on the east side of the downtown area. Akron is easily reached by automobile from major national east-west routes (Interstates 80, 90, 76, and the Ohio Turnpike) and north south routes (Interstates 71 and 77), all of which link Akron to the surrounding states and regions. For airline passengers, limousine service is available from the Cleveland Hopkins International Airport located to the north and the Akron-Canton Regional Airport, located to the south.

History

The connection between The University of Akron and its surrounding community has been a recurring theme in its history. The institution was founded as a small denominational college in 1870 and has grown to its current standing as a major, metropolitan, state-assisted university. It is significant that the efforts, energy, and financial support of an Akron manufacturer of farm equipment, John R. Buchtel, were instrumental in persuading the Ohio Universalist Convention to build its college on a hill overlooking the town that stretched along the Ohio Canal. The grateful trustees responded by naming the school Buchtel College. It is also significant that during its first four decades, the struggling institution was repeatedly aided in its efforts to survive by various local entrepreneurs who pioneered and prospered in such industries as cereals, clay products, matches, and rubber. Buchtel College's emphasis on local rather than denominational interests became increasingly clear, and by 1913 those strong ties and the school's financial situation caused its trustees to transfer the institution and its assets to the city. For the next 50 years, The Municipal University of Akron received its principal support from city tax funds and swelled from an enrollment of 198 to nearly 10,000. The growth of the college paralleled the remarkable expansion of the community itself. From 1910 to 1920, Akron was the fastest-growing city in the country, evolving from a thriving canal town of 70,000 to a major manufacturing center of 208,000, thanks in large part to a boom in local factories that bore names such as Goodyear, Firestone, Goodrich, and others. The age of the automobile — and the demand for inflatable rubber tires — changed the complexion of Akron forever. Changes within the Municipal University's curriculum reflected the strong interrelationship of town and gown. In 1914 a College of Engineering began instruction, and other professional schools followed: Education (1921), Business Administration (1953), Law (1959), Community and Technical College (now Summit College) (1964), Fine and Applied Arts (1967) (In December 2008, the programs in the college became part of two distinct units: the College of Creative and Professional Arts, and the College of Health Sciences and Human Services. In 2012, the programs in the colleges moved to the Buchtel College of Arts and Sciences and newly created College of Health Professions.), Nursing (1967) (in 2012, Nursing joined programs from the College of Health Sciences and Human Services to form the College of Health Professions) and Wayne College (1972).

Considering the institution's location in the heart of a burgeoning rubber industry, it seemed appropriate that the world's first courses in rubber chemistry would be offered at Buchtel College, in 1909. From those first classes in Professor Charles W. Knight's laboratory evolved the world's first College of Polymer Science and Polymer Engineering (1988). During World War II, University of Akron researchers helped fill a critical need in the U.S. war effort by contributing to the development of synthetic rubber. The University's polymer programs have produced some of the world's most able scientists and engineers, and today attract millions of dollars annually in research support, as well as top graduate students from around the world. Research, innovation, and creativity actively take many forms at the University — in the sciences, and in the arts and humanities.

Today, University faculty study ways of matching workers with jobs to maximize performance; develop new ways to synthesize fuel; write and produce plays, write poetry, choreograph dance works; explore improved methods of tumor detection; evaluate water quality in northeast Ohio; provide speech and hearing therapy to hundreds of clients; aid the free enterprise system by sharing the latest in business practices with new and established companies alike; provide health care in community clinics; and study political campaign financing and reform. Faculty are awarded patents each year for their work on new technologies and products. The University of Akron's continuing and central commitment to the liberal arts is signified by the perpetuation of the institution's original name in the Buchtel College of Arts and Sciences. The University has a long tradition of serving the needs of part-time and full-time students through day and evening classes, and it attracts traditional and nontraditional students of all economic, social, and ethnic backgrounds. The University seeks to recruit and retain students of diverse backgrounds.

The University's first doctoral degree was, appropriately enough, awarded in polymer chemistry in 1959, but master's degrees were granted as early as 1882. The University of Akron now offers 17 doctoral degree programs and seven law degree programs as well as more than 100 master's degree programs and options. The University offers undergraduate students a choice of more than 200 majors and areas of study leading to associate and bachelor's degrees. Hundreds of noncredit continuing education courses, certificate programs and specialized training opportunities are available for individuals and organizations.

In 1963 the receipt of state tax monies made the University a state-assisted municipal university, and on July 1, 1967, The University of Akron officially became a state university. Today, about 28,000 students are enrolled in its 9 degree-granting units. Its College of Polymer Science and Polymer Engineering is the nation's largest academic polymer program. The University excels in many other areas, including engineering, biomedicine, bioscience, global business, organizational psychology, educational technology, marketing, dance, intellectual property law and nursing. Alumni of the University number more than 160,000 and include scientists, engineers, artists, lawyers, educators, nurses, writers, business people, and other professionals at work in every state and throughout the world.

The 218-acre Akron campus, with more than 80 buildings, is within walking distance of downtown Akron and is located in a metropolitan area of 2.8 million people.

The University's presence in Northeast Ohio provides numerous opportunities in recreation, major collegiate, amateur, and professional sports, concerts, cultural events, and commerce, all within easy driving distance and many accessible via public transportation.

Arts venues on campus include Daum and Sandefur theatres, Guzzetta Recital Hall, the Emily Davis Gallery, and E.J. Thomas Performing Arts Hall, the flagship performance venue for the region. The critically acclaimed Akron Symphony Orchestra, Tuesday Musical and UA Steel Drum Band perform at Thomas Hall. [More about arts and culture at Akron.](#)

The University joined the Mid-American Conference in 1991 and participates on the NCAA Division I level in 19 sports. [More about athletics at Akron.](#)

The University's ongoing, major campus renovation campaign that began in 2000, the "New Landscape for Learning," has added 22 new facilities, 18 major additions or renovations and 34 acres of green space.

For more than 142 years, The University of Akron has been an active participant in Akron's renaissance of commercial and artistic endeavor, a leader in the metropolitan area's intellectual and professional advancement, a center for internationally lauded research efforts and a source of enrichment, education, and vitality for Northeast Ohio. Our history is a long and proud one — yet at The University of Akron, our eyes are on the future, for our students, our faculty and staff, our community, and our world.

Safety and Security

Located on this page you will find relevant information regarding Safety and Security, including links to those respective offices and departments. This information is provided as part of The University of Akron's commitment to safety and security on campus and is in compliance with the Federal Crime Awareness and Campus Security Act of 1990.

The Campus

The University employs many people to keep the campus safe and secure. The Division of Public Safety provides for student and employee safety and security through the departments of University Police and Environmental and Occupational Health and Safety. Student Affairs is responsible for security and safety policies governing residence halls, fraternities, and sororities and for teaching students about security and crime prevention. It is the intent of the University to continue and enhance current safety and security education and awareness programs throughout the year. The purpose of these programs is to assure that the campus community frequently receives information and instruction on University crime and safety policies and procedures, and on drug and alcohol control and prevention. A safe campus can be achieved only with the cooperation of the entire campus community. The University hopes students will read and become familiar with this material and be responsible for their own safety and the security of others.

University Police

<http://www.uakron.edu/safety/police/>

Phone - 330-972-2911

Email - uapd@uakron.edu

Campus law enforcement is primarily the responsibility of The University of Akron Department of Police. University police provide 24-hour-a-day patrol protection to the campus, parking lots, residence halls, and on-campus fraternity and sorority houses. The police station is located in the Physical Facilities Operation Center at the corner of Hill and South Forge streets and is staffed 24 hours a day. The University's 40 police officers are commissioned by the State of Ohio with full law enforcement authority and responsibilities identical to the local police or sheriff. The UA Police Department works closely with the Akron Police Department and other law enforcement agencies. Reports are exchanged every business day so that both agencies receive pertinent information. Information is shared through personal contacts and by phone and radio. University and City of Akron police regularly work together at large campus events such as athletic competitions and dances. UA Police officers have met or exceeded the training standards of the Ohio Peace Officers Training Council. They also receive ongoing in-service and specialized training in first aid, CPR, firearms, defensive tactics, legal updates, and other skills. UA Police officers enforce laws regulating underage drinking, the use of controlled substances, weapons, and all other incidents requiring police assistance. They also are responsible for public safety services such as crime reports, medical emergencies, fire emergencies, and traffic accidents. Incidents which may not rise to the level of a violation of law are referred to the Department of Student Judicial Affairs. The Code of Student Conduct Manual explains the University's disciplinary process and is available through the Department of Student Judicial Affairs. It is the goal of every member of the University Police Department to promote, preserve, and deliver feelings of safety and security through quality services to the members of the University community.

Drug and Alcohol Prevention

<http://www.uakron.edu/safety/be-safe-and-smart/drug-free-schools-and-communities.dot>

The issue of drug and alcohol abuse concerns the entire University community as well as our surrounding neighborhoods. The federal Drug Free Schools and Communities Act Amendments of 1989 require schools, colleges, and universities receiving federal financial assistance to implement and enforce drug and alcohol prevention programs for students and employees. The University of Akron prohibits the illegal use, possession, sale, manufacture, or distribution of drugs and alcohol by all students and employees on University premises or as part of any University activity. Any misuse of substances by University students and employees that presents physical or psychological hazard to individuals also is prohibited. It is the responsibility of The University of Akron to adopt and implement a drug prevention program for its students and employees. The University as an institution, and each of us as individuals, must eliminate the use of illicit drugs and alcohol that contribute to the unrecoverable loss of time, talent, and lives.

Crime Prevention

<http://www.uakron.edu/safety/be-safe-and-smart/>

Phone –330-972-2911

Through the Office of Community Policing/Crime Prevention, University police officers provide educational programs to students and employees on personal safety, sexual assault/acquaintance rape prevention, drug and alcohol abuse prevention, and related topics. The University Police Department welcomes the chance to talk with any campus group. Candid dialogue between UA Police and the public has created greater confidence in the community to report unlawful activities. These programs are scheduled when requested. Potential illegal actions and on-campus emergencies can be confidentially reported by any student, faculty, or staff member. Complaints received by UA police which fall outside their jurisdiction will be referred to the appropriate agency, or the complainant will be provided a phone number where the complaint can be filed. Likewise, other agencies refer complaints to University Police when appropriate. The University Police encourage the prompt reporting of crimes. Security considerations and maintenance are high priorities. Police officers patrol parking lots 24 hours a day. UA police also offer assistance to motorists with battery jumps, inflating tires, unlocking vehicles, and obtaining fuel. To request non-emergency assistance, call extension 2911. To schedule an appointment for an educational program, call extension 2911. For emergencies, dial 911 from any campus telephone or 330-972-2911 from a cell phone.

Student Campus Patrol

<http://www.uakron.edu/safety/be-safe-and-smart/>

Phone – 330-972-7263

A student escort service operates 5 p.m. to 2 a.m. seven days a week for the safety of anyone walking alone on campus during the evenings. Summer and break hours vary. By calling extension 7263, an escort will come to the student's location and accompany him/her to any campus building or parking lot. Employed and trained by The University of Akron Police Department, the campus patrol teams are easily identified by labeled jackets, or maroon shirts. These teams assist the University police in patrolling campus parking lots and other campus areas and report suspicious individuals or activities directly to the police dispatch center.

Emergency Phones and Emergency Phone Numbers

<http://www.uakron.edu/safety/be-safe-and-smart/>

Yellow or red emergency phones are directly connected to the UA Police Department. These phones are strategically located throughout campus pedestrian walkways and inside parking decks. Police respond to the activation of any emergency phone receiver, even if no words are spoken. Outdoor security phones are at the main entrances of all campus residence halls. UA Police and other campus numbers can be dialed on these phones. If using an off-campus phone, dial 330-972- before the campus extension.

Campus Buildings – Hours of Operation

Most University academic facilities are open to the public from 7 a.m. until the latest evening classes let out. Administrative buildings are generally locked at 6 p.m. When the University is closed, all buildings are locked and may be opened only by authorized personnel.

Health and Safety

<http://www.uakron.edu/safety/health-and-safety/>

Members of the Department of Environmental and Occupational Health and Safety routinely inspect the campus for environmental and safety concerns. The Department of Physical Facilities maintains University buildings and grounds and regularly inspects facilities and promptly makes repairs to ensure safety and security. University Police work with both units to respond to reports of potential safety and security hazards, such as broken windows and locks. UA police also work with physical facilities personnel to help maintain adequate exterior lighting and safe landscaping practices.

Personal Responsibility

The cooperation and involvement of students, faculty, and staff in any campus safety program is absolutely necessary. All must assume responsibility for their own safety and security of their property by following simple, common sense precautions. For example, although the campus is well-lighted, everyone should confine their movements to well-traveled areas. There is safety in numbers, and everyone should walk with a companion or with a group at night. Valuables should be marked with a personal identification number in case of loss or theft. Bicycles should be properly secured when not in use. Automobiles should be locked at all times. Valuables and purses should never be lying in view in a car but locked in the car trunk for safekeeping. Protect your identity and personal information.

Crime Statistics

<http://www.uakron.edu/safety/annual-safety-report/crime-statistics.dot>

The University of Akron Police Department complies with reporting standards set by the United States Department of Education guidelines. Our crime statistics can be found at our police department Web site at www.uakron.edu/safety/annual-safety-report/. A hard copy of crime statistics can be obtained at The University of Akron's Police Department located at 146 Hill St., Akron, OH 44325-0402.

Important Phone Numbers

University Area Code (330)

All phone numbers are subject to change without notice.

For numbers not listed, call the University Switchboard 330-972-7111

Colleges

Buchtel College of Arts and Sciences	972-7880
College of Education	972-6966
College of Business Administration	972-7041
Summit College	972-7220
College of Polymer Science and Polymer Engineering	972-7500
College of Health Professions	972-7551
College of Engineering	972-6978
Honors College	972-7966
The University of Akron Wayne College	(800) 221-8308

Other Offices

Academic Achievement Programs	972-6804
Academic Advising and Student Success, Center of	972-7430
Accessibility, Office of	972-7928
Admissions, Office of	972-7100
Adult Focus, UA	972-5793
Air Force (Aerospace Studies)	972-2182
Athletic Advising	972-7426
Athletics, Director	972-7080
Bierce Library	972-8161
Bierce Math Lab	972-5214

Bierce Tutoring Lab	972-6552
Bierce Writing Lab	972-6548
<i>Buchtelite, The</i> (student newspaper)	972-7919
Career Center	972-7747
Center for Child Development	972-8210
Center for Service and Leadership	972-7021
College Reading and Study Skills Lab	972-6984
Counseling Center	972-7082
Developmental Programs	972-7087
DocuZip Exchange Street Residence Hall	972-3947
DocuZip Polsky Building	972-2130
DocuZip Student Union	972-7870
Educational Talent Search	972-5771
English Language Institute	972-7544
Federal College Work Study	972-8074
Financial Aid, Office of Student	972-7032
Fraternity and Sorority Life	972-7909
Game Room	972-8462
Graduate School	972-7663
Health Services, Student.	972-7808
International Programs	972-6349
Law Library	972-7330
Military Services Center	972-7838
Multicultural Development, Office of	972-6769
New Student Orientation (NSO)	972-2622
Off-Campus Student Services	972-5500
Office of Student Academic Success	972-6552

Ohio Residency Officer	972-8638
Pan-African Culture and Research Center	972-7030
Parking Services	972-7213
Peer Mentoring Program	972-6769
Registrar, Office of the University	972-8300
Reservation Line (Student Union)	972-8689
Reserved Officers' Training Corps (ROTC)	972-7454
Residence Life and Housing	972-7800
S.T.E.P. (Strive Toward Excellence Program)	972-6819
Scholarships (non-University)	972-7032
Scholarships (University)	972-7032
Science and Technology Library	972-8323
Student Judicial Affairs, Department of	972-6380
Student Life, Administration Office	972-7866
Student Organization Resource Center (SOuRCe)	972-2483
Student Recreation and Wellness Services	972-2348
Student Union Information Centers	972-INFO (4636)
Testing Services	972-7084
Toll-Free - Undergraduate Admissions	(800) 655-4884
Tours (of the University)	972-7077
Transfer Student Services Center (TSSC)	972-7009
TTY/TDD	972-5764
Undergraduate Student Government	972-7002
University Archives	972-7670
Upward Bound Math and Science Program	972-5105
Upward Bound Program	972-5839
WZIP-FM Radio Station	972-7105

ZIPS Programming Network

972-7014

Emergency Phone Numbers

Campus Patrol

972-7263

Emergency and Closing Information

972-SNOW (7669)

Police/Fire/EMS

911

Police (non-emergency)

972-2911

University Switchboard

972-7111

Important Policies

- [Statement of Expectations](#)
- [Intent to Enroll](#)
- [New Student Orientation](#)
- [Academic Advising](#)
- [Registration](#)
- [Level Status \(Freshman - Senior\)](#)
- [Class Attendance](#)
- [Student Schedules](#)

A Civil Climate for Learning: Statement of Expectations

The University of Akron is an educational community of diverse peoples, processes, and programs. While all of us have our individual backgrounds, outlooks, values, and styles, we all share certain principles of personal responsibility, mutual respect, and common decency. Our campus culture requires that we maintain and extend those principles, for without them we cannot thrive as a humane and worthwhile university. To keep ourselves aware of these shared principles, this statement articulates some of the expectations and responsibilities of a civil climate for learning on our campus.

Principles of Our Campus Culture

Our campus culture acknowledges the importance of all in our community for their participation in our common enterprise as a university. We value the contributions and we respect the needs of students, faculty, contract professionals, staff, administrators, maintenance and service personnel, and everyone else whose work and dedication enable us to pursue our individual and collective academic goals.

Together, we maintain an **intellectual culture** that is accessible, disciplined, free, safe, and committed to excellence. By our behavior with one another, we endorse a **culture of diversity** celebrating the uniqueness of the individual and developing our understanding and tolerance of differences in gender, ethnicity, age, spiritual belief, sexual orientation, and physical or mental potential.

We take responsibility for sustaining a **caring culture**, nurturing growth and fulfillment in one another and in the larger communities of which we are a part. We insist on a **culture of civility**, united in our rejection of violence, coercion, deceit, or terrorism. We work to increase collaboration, cooperation, and consensus within rational dialogue characterized by mutual respect and consideration.

Ours is a **responsible culture**. We expect each member of our community to carry out responsibly his or her duties for preserving the integrity, quality, and decency of our environment and our discourse.

Expectations and Responsibilities

To preserve and propagate the Culture of The University of Akron, everyone must engage in certain specific behaviors. Anyone new to this campus must be aware of the expectations we have of each other and be committed to fulfilling his/her responsibility in maintaining our culture.

Inside the Classroom

Inside the classroom, **faculty** are expected to respect the sanctity of the teaching/learning process by honoring their commitment to students in terms of time, fairness, and enthusiasm. It is the responsibility of faculty to set and enforce the classroom rules of conduct. Faculty members are expected to treat men and

women, persons of all colors and ethnicities, and persons with varying abilities, spiritual preference, or sexual orientation with equitable respect and consideration. Faculty should value and pursue excellence in teaching as well as research. Faculty shall not engage in sexual or other forms of harassment or engage in inappropriate dual relationships with students. Faculty must not tolerate academic dishonesty nor discrimination or harassment from students to other students.

Students are expected to respect the sanctity of the teaching/learning process by expressing respect for the faculty member as the organizer and guide through this learning experience, as well as for fellow students. Disruptive, disrespectful, discriminatory, harassing, violent and/or threatening behavior is explicitly prohibited. Academic dishonesty will not be tolerated. Students are expected to take responsibility for their own learning and, in return, can expect responsible teaching from the faculty member. Students should report unprofessional behavior on the part of faculty members. Students have a right to expect that they will not be sexually or otherwise harassed, intimidated, or threatened.

On the Campus

On the campus, everyone is expected to respect and protect the dignity and freedom of each other. There must be the opportunity for expression of all points of view, free from name-calling or ridicule. All members of the University family are expected to be civil and tolerant of others. It is the responsibility of each member of the University community to express dissatisfaction with anyone who fails to meet the responsibility of civility and to request that they do so. In the event that cooperation cannot be attained, proper authorities must be involved to insist upon these minimum expectations. Only by campus-wide compliance to these expectations can we achieve a clear sense of our campus culture and, accordingly, a sense of mutual pride.

Students can expect that all representatives of all departmental and administrative offices will treat them with respect, a sense of cooperation and with concern for their welfare. Students can also expect appropriate coordination of services among departments. Everyone is expected to respect the campus environment by behaving in ways that protect the safety, order, and appearance of all campus facilities. Each person must take steps to preserve the ecological and aesthetic aspects of the campus.

Additional Behavioral Expectations

All members of the University community are required to abide by all laws and regulations of The University of Akron, the City of Akron, the State of Ohio, and the Federal Government. Students are expected to abide by the Code of Student Conduct and the University Disciplinary Procedures. Faculty, contract professionals, administrators, and staff are expected to abide by all University regulations and procedures.

Intent to Enroll

<http://www.uakron.edu/intent/>

Phone – 330-972-2622

Email – orientation@uakron.edu

The University of Akron requires students to submit an 'Intent to Enroll' form, indicating their acceptance of the University's offer of Admission, and a \$125 University Confirmation fee. The Intent to Enroll form is sent to students at the time of admission to the University. Upon return of the Intent to Enroll form and the University Confirmation fee, the student is e-mailed and electronic New Student Enrollment Packet, which includes their date for Countdown to Campus Orientation, information on requesting on-campus housing and University dining plans and details related to Financial Aid, Student Accounts and Payment Plans.

New Student Orientation

<http://www.uakron.edu/nso/>

Phone – 330-972-2622

Email – orientation@uakron.edu

All new freshmen, transfer students and students enrolled in the Post-Secondary Enrollment Option Program (PSEOP) are required to attend an orientation program prior to registering for classes at The University of Akron. Orientation is conducted as a one-day program and is intended to ensure a smooth transition to the University. Content includes information about academic policies and procedures, registration and financial responsibility, campus involvement, and campus safety. In addition, all new, direct from high school students are required to attend a mandatory three-day New Roo Weekend program prior to the start of the fall semester.

Multiple orientation sessions are available prior to each term and are filled on a first come, first served basis. Students should attend orientation as soon as possible to ensure the best selection of classes.

Academic Advising

New students are required to meet with academic advisors upon initial entry to the University and throughout the first year. Thereafter, academic advisors continue to serve as a resource for students to discuss degree requirements, career goals, major choice, course selection and other academic concerns.

Registration

Each term it is necessary for a student to select courses, formally register for those courses, and pay the appropriate tuition and fees. The student may elect to register online or in person. Details about these options are described online via MyAkron at <http://my.uakron.edu> and are available upon request from the Office of Academic Advising Services, or the degree-granting college.

Level Status

The level status of each student is dependent upon the number of credit hours earned. The University identifies the following levels:

Will be Designated If the Overall Credits Earned Are

Senior	90 credit hours or higher
Junior	60-89.99 credit hours earned
Sophomore	30-59.99 credit hours earned
Freshman	0-29.99 credit hours earned

Class Attendance

A student is expected to attend all class meetings for which the student is registered. A student may be dropped from a course in the current term by the dean if absence is repeated and the instructor recommends this action; a student can gain re-admission only with permission of both the instructor and the dean. A student dropped from a course receives an "F" which counts as work attempted whenever grade- point ratio calculations are made.

Student Schedules

Adding Courses

A student must register for a course in person before the end of the fifth day of a fall or spring term or online via MyAkron at <http://my.uakron.edu> by the end of the first week of the fall or spring term. Additions to the student's official schedule may be made after that date, but before the 15th calendar day, only with the permission of the student's advisor, instructor and dean or the dean's designee. Students who have not registered by this deadline may not attend classes or receive credit for the course. This deadline applies to all regular 15-week courses offered in the fall and spring semesters. For all other courses, such as those in intersessions or those which are flexibly scheduled, courses must be added, with appropriate permission, by the date when 20% of the course has been completed. Details regarding Summer session information may be found via MyAkron at <http://my.uakron.edu>.

Withdrawal Policy

<http://www.uakron.edu/ssc/withdrawal-policy.dot>

Phone – 330-972-7272

Email – ssc@uakron.edu

Students may drop a course through the second week (14th calendar day) of a semester or proportionally equivalent dates during summer session, intersession, and other course terms. No record of the course will appear on the student's transcript. For purposes of this policy, the course term for a course that meets during a semester but begins after the beginning of a semester and/or ends before the end of a semester begins when its class meetings begin and ends when its class meetings end. After the 14-day drop period, and subject to the limitations below, students may withdraw from a course through the seventh week (49th calendar day) of a semester or proportionally equivalent dates during summer session, intersession, or other course terms. A course withdrawal will be indicated on the student's official academic record by a grade of "WD."

Withdrawing from courses – applicable to undergraduate students only:

1. Undergraduate students may not withdraw from the same course more than twice. If a student attempts to withdraw from a course after having withdrawn from it twice before, he or she will continue to be enrolled in the course and will receive a grade at the end of the semester.
2. Full-time undergraduate students who need to withdraw from all courses for extraordinary non-academic reasons (e.g., medical treatment or convalescence, military service) must obtain the permission of the dean of their college. For purposes of this paragraph:
 - a) Students are considered full-time if they were enrolled as full-time students at the beginning of the term; and b) Courses for which the student has completed all requirements are excluded.

3. Undergraduate students who withdraw from two courses either before they have earned 30 credits, or after they have earned 30 credits but before they have earned 60 credits, are not permitted to register for additional courses until they have consulted with their academic advisor. The purpose of this consultation is to discuss the reasons for the course withdrawals and to promote satisfactory academic progress by helping students develop strategies to complete their courses successfully.
4. Except as otherwise provided below, undergraduate students may not withdraw from more than four courses before they have earned 60 credits. Students who attempt to withdraw from more than four courses will continue to be enrolled in those courses and will receive grades at the end of the semester.
5. Undergraduate students who need to withdraw from all courses for extraordinary, non-academic reasons (e.g. medical treatment or convalescence, military service) may, after consulting with their advisor, submit a written petition to the dean of their college requesting that these courses not be counted toward the four-course withdrawal limit. The dean may grant this permission if, in the dean's judgment, it is consistent with the best academic interests of the student and the best interests of the University.
6. Undergraduate students who have reached the four-course withdrawal limit as noted above may, after consultation with their advisor, submit a written petition to the dean of their college seeking permission to withdraw from one or more additional courses. The dean may grant this permission if the dean finds that the withdrawal is necessitated by circumstances beyond the student's control and is consistent with the best academic interests of the student and the best interests of the University.
7. Withdrawing from a course shall not reduce or prevent a penalty accruing to a student for misconduct as defined in the Student Code of Conduct.
8. Degree granting colleges may supplement this policy with more stringent requirements.

AP Exam	AP Score	Course(s) Awarded	Credits Awarded
Art History	3,	<ul style="list-style-type: none"> ■ 7100:210, Visual Arts Awareness 	3
	4 or 5	<ul style="list-style-type: none"> ■ 7100: 100, Survey of History of Art I ■ 7100: 101, Survey of History of Art II 	4 4
Biology	3	<ul style="list-style-type: none"> ■ 3100:103, Natural Science: Biology 	4
	4	<ul style="list-style-type: none"> ■ 3100:100, Introduction of Botany ■ 3100:103, Natural Science: Biology 	4 4
	5	<ul style="list-style-type: none"> ■ 3100:111, Principles of Biology I ■ 3100:112, Principles of Biology II 	4 4
Calculus AB	3, 4, or 5	<ul style="list-style-type: none"> ■ 3450:221, Analytic Geometry-Calculus I 	4
Calculus BC*	3, 4 or 5	<ul style="list-style-type: none"> ■ 3450:221, Analytic Geometry-Calculus I 	4
		<ul style="list-style-type: none"> ■ 3450:222, Analytic Geometry-Calculus II 	4
Chemistry	3	<ul style="list-style-type: none"> ■ 3150:100, Chemistry and Society ■ 3150:152, Principles of Chemistry I lab 	3 1
	4 or 5	<ul style="list-style-type: none"> ■ 3150:151, Principles of Chemistry I ■ 3150:152, Principles of Chemistry I lab 	3 1
Chinese Language and Culture	3	<ul style="list-style-type: none"> ■ 3500:101, Beginning Chinese I 	4
		<ul style="list-style-type: none"> ■ 3500:102, Beginning Chinese II 	4
	4	<ul style="list-style-type: none"> ■ 3500:101, Beginning Chinese I ■ 3500:102, Beginning Chinese II ■ 3500:201, Intermediate Chinese I 	4 4 3

AP Exam	AP Score	Course(s) Awarded	Credits Awarded
	5	<ul style="list-style-type: none"> ■ 3500:101, Beginning Chinese I ■ 3500:102, Beginning Chinese II ■ 3500:201, Intermediate Chinese I ■ 3500:202, Intermediate Chinese II 	4 4 3 3
Comparative Government & Politics	3	<ul style="list-style-type: none"> ■ General Education Social Science, Set 3 	3
	4 or 5	<ul style="list-style-type: none"> ■ 3700:300, Comparative Politics 	4
Computer Science A	3 or 4	<ul style="list-style-type: none"> ■ 3460:209, Computer Science I 	4
	5	<ul style="list-style-type: none"> ■ 3460:209, Computer Science I ■ 3460:210, Computer Science II 	4 4
Computer Science AB	3 or 4	<ul style="list-style-type: none"> ■ 3460: 209, Computer Science I 	4
	5	<ul style="list-style-type: none"> ■ 3460:209, Computer Science I ■ 3460:210, Computer Science II 	4 4
English Language	3, 4, or 5	<ul style="list-style-type: none"> ■ 3300:111, English Composition I 	3
English Literature	3, 4, or 5	<ul style="list-style-type: none"> ■ 3300:111, English Composition I 	3
English Language & English Literature	3, 4, or 5	<ul style="list-style-type: none"> ■ 3300:111, English Composition I ■ 3300:250, Classic and Contemporary Literature 	3 3
Environmental Science	3, 4, or 5	<ul style="list-style-type: none"> ■ 3370:211, Introduction to Environmental Science 	3
European History	3	<ul style="list-style-type: none"> ■ General Education Social Sciences Set 7 	3
	4 or 5	<ul style="list-style-type: none"> ■ General Education Social Sciences Set 7 ■ General Education Humanities Set 4 	3 3

AP Exam	AP Score	Course(s) Awarded	Credits Awarded
French Language	3	<ul style="list-style-type: none"> ■ 3520:101, Beginning French I ■ 3520:102, Beginning French II 	4 4
	4	<ul style="list-style-type: none"> ■ 3520:101, Beginning French I ■ 3520:102, Beginning French II ■ 3520:201, Intermediate French I 	4 4 3
	5	<ul style="list-style-type: none"> ■ 3520:101, Beginning French I ■ 3520:102, Beginning French II ■ 3520:201, Intermediate French I ■ 3520:202, Intermediate French II 	4 4 3 3
French Literature	3	<ul style="list-style-type: none"> ■ 3520:101, Beginning French I ■ 3520:102, Beginning French II ■ 3520:201, Intermediate French I 	4 4 3
	4 or 5	<ul style="list-style-type: none"> ■ 3520:101, Beginning French I ■ 3520:102, Beginning French II ■ 3520:201, Intermediate French I ■ 3520:202, Intermediate French II 	4 4 3 3
German Language	3	<ul style="list-style-type: none"> ■ 3530:101, Beginning German I ■ 3530:102, Beginning German II 	4 4
	4	<ul style="list-style-type: none"> ■ 3530:101, Beginning German I ■ 3530:102, Beginning German II ■ 3530:201, Intermediate German I 	4 4 3
	5	<ul style="list-style-type: none"> ■ 3530:101, Beginning German I ■ 3530:102, Beginning German II ■ 3530:201, Intermediate German I ■ 3530:202, Intermediate German II 	4 4 3 3
Human Geography	3, 4, or 5	<ul style="list-style-type: none"> ■ 3350:275, Geography of Cultural Diversity 	2
Italian Language and Culture	3	<ul style="list-style-type: none"> ■ 3550:101, Beginning Italian I 	4
		<ul style="list-style-type: none"> ■ 3550:102, Beginning Italian II 	4

AP Exam	AP Score	Course(s) Awarded	Credits Awarded
	4	<ul style="list-style-type: none"> ■ 3550:101, Beginning Italian I ■ 3550:102, Beginning Italian II ■ 3550:201, Intermediate Italian I 	4 4 3
	5	<ul style="list-style-type: none"> ■ 3550:101, Beginning Italian I ■ 3550:102, Beginning Italian II ■ 3550:201, Intermediate Italian I ■ 3550:202, Intermediate Italian II 	4 4 3 3
Japanese Language and Culture	3	<ul style="list-style-type: none"> ■ 3560:101, Beginning Japanese I ■ 3560:102, Beginning Japanese II 	4 4
	4	<ul style="list-style-type: none"> ■ 3560:101, Beginning Japanese I ■ 3560:102, Beginning Japanese II ■ 3560:201, Intermediate Japanese I 	4 4 3
	5	<ul style="list-style-type: none"> ■ 3560:101, Beginning Japanese I ■ 3560:102, Beginning Japanese II ■ 3560:201, Intermediate Japanese I ■ 3560:202, Intermediate Japanese II 	4 3 3 3
Latin Literature	3	<ul style="list-style-type: none"> ■ 3510:101, Beginning Latin I ■ 3510:102, Beginning Latin II 	4 4
	4	<ul style="list-style-type: none"> ■ 3510:101, Beginning Latin I ■ 3510:102, Beginning Latin II ■ 3510:201, Intermediate Latin I 	4 4 3
	5	<ul style="list-style-type: none"> ■ 3510:101, Beginning Latin I ■ 3510:102, Beginning Latin II ■ 3510:201, Intermediate Latin I ■ 3510:202, Intermediate Latin II 	4 4 3 3
Latin: Vergil	3	<ul style="list-style-type: none"> ■ 3510:101, Beginning Latin I ■ 3510:102, Beginning Latin II ■ 3510:201, Intermediate Latin I 	4 4 3

AP Exam	AP Score	Course(s) Awarded	Credits Awarded
	4 or 5	<ul style="list-style-type: none"> ■ 3510:101, Beginning Latin I ■ 3510:102, Beginning Latin II ■ 3510:201, Intermediate Latin I ■ 3510:202, Intermediate Latin II 	4 4 3 3
Macroeconomics	3, 4 or 5	<ul style="list-style-type: none"> ■ 3250:201, Principles of Macroeconomics 	3
Microeconomics	3, 4 or 5	<ul style="list-style-type: none"> ■ 3250:200, Principles of Microeconomics 	3
Music Theory	3	<ul style="list-style-type: none"> ■ General Education Humanities Fine Arts 	3
	4 or 5	<ul style="list-style-type: none"> ■ 7500:121, Theory and Musicianship I 	4
Physics 1	3, 4 or 5	<ul style="list-style-type: none"> ■ 2820: 161, Technical Physics: Mechanics I ■ 2820: 162, Technical Physics: Mechanics II 	2 2
Physic 2	3, 4 or 5	<ul style="list-style-type: none"> ■ 2820: 163, Technical Physics: Electricity and Magnetism ■ 2820: 164, Technical Physics: Heat and Light 	2 2
Physics B	3, 4 or 5	<ul style="list-style-type: none"> ■ 2820:161, Tech Physics: Mech I/lab ■ 2820:162, Tech Physics: Mech II/lab ■ 2820:163, Tech Physics: Electricity & Magnetism/lab ■ 2820:164, Tech Physics: Heat and Light/lab 	2 2 2 2
Physics C: Electricity & Magnetism	3, 4 or 5	<ul style="list-style-type: none"> ■ 3650:292, Elem. Classical Physics II 	4
Physics C: Mechanics	3, 4 or 5	<ul style="list-style-type: none"> ■ 3650:291, Elem. Classical Physics I 	4

AP Exam	AP Score	Course(s) Awarded	Credits Awarded
Psychology	3, 4 or 5	<ul style="list-style-type: none"> ■ 3750:100, Introduction to Psychology 	3
Spanish Language	3	<ul style="list-style-type: none"> ■ 3580:101, Beginning Spanish I ■ 3580:102, Beginning Spanish II 	4 4
	4	<ul style="list-style-type: none"> ■ 3580:101, Beginning Spanish I ■ 3580:102, Beginning Spanish II ■ 3580:201, Intermediate Spanish I 	4 4 3
	5	<ul style="list-style-type: none"> ■ 3580:101, Beginning Spanish I ■ 3580:102, Beginning Spanish II ■ 3580:201, Intermediate Spanish I ■ 3580:202, Intermediate Spanish II 	4 4 3 3
Spanish Literature	3	<ul style="list-style-type: none"> ■ 3580:101, Beginning Spanish I ■ 3580:102, Beginning Spanish II ■ 3580:201, Intermediate Spanish I 	4 4 3
	4 or 5	<ul style="list-style-type: none"> ■ 3580:101, Beginning Spanish I ■ 3580:102, Beginning Spanish II ■ 3580:201, Intermediate Spanish I ■ 3580:202, Intermediate Spanish II 	4 4 3 3
Statistics	3, 4 or 5	<ul style="list-style-type: none"> ■ 3470:261, Introductory Statistics I ■ 3470:262, Introductory Statistics II 	2 2
Studio Art: 2-D Design	3, 4 or 5	<ul style="list-style-type: none"> ■ General Education Humanities Fine Arts 	3
Studio Art: 3-D Design	3, 4 or 5	<ul style="list-style-type: none"> ■ General Education Humanities Fine Arts 	3
Studio Art: Drawing	3, 4 or 5	<ul style="list-style-type: none"> ■ General Education 	3
U.S. Government & Politics	3, 4, or 5	<ul style="list-style-type: none"> ■ 3700:100, Government & Politics in the US 	4

AP Exam	AP Score	Course(s) Awarded	Credits Awarded
U.S. History	3, 4, or 5	<ul style="list-style-type: none"> ■ 3400:250, United States History to 1877 	4
		<ul style="list-style-type: none"> ■ 3400:251, United States History Since 1877 	4
World History	3	<ul style="list-style-type: none"> ■ General Education Social Sciences Set 7 	4
	4 or 5	<ul style="list-style-type: none"> ■ General Education Social Sciences Set 7 ■ General Education Humanities Set 4 	3 3

* Students who intend to major in a STEM discipline and earn a 3 on the Calculus BC exam should consult with an advisor before purchasing credit.

Alternative Credit Options

- [Advanced Placement Credit](#)
- [Bypassed Credit](#)
- [College Level Examination Program \(CLEP\)](#)
- [Credit by Examination](#)
- [International Baccalaureate](#)
- [Military Credit](#)
- [Postsecondary Enrollment Options](#)
- [Tech Prep](#)
- [Transfer Credit](#)

American Council on Education's College Credit Recommendation

The University of Akron accepts the American Council on Education's College Credit Recommendation Service (CREDIT). CREDIT evaluates and makes credit recommendations for formal educational programs and courses offered by organizations including business and industry, labor unions, professional and voluntary associations, schools, training suppliers, and government agencies. The program is based on the idea that it is sound educational practice for colleges and universities to grant academic credit for high-quality educational programs conducted by a variety of organizations provided that the courses are appropriate to an individual's degree program.

Advanced Placement Credit

<http://www.uakron.edu/admissions/undergraduate/who-are-you/applicant/ap-and-ib-credit.dot>

Many high schools offer Advanced Placement courses through the auspices of the College Board for possible college credit. By enrolling in such courses during high school and taking Advanced Placement Tests at the end of each course, high school students may earn undergraduate credits in a number of different academic areas. The test score required to receive credit for a specific course is determined by the Ohio Board of Regents and the Academic Department in which the course resides. Credits earned in this manner are included in the total credits completed, but are not assigned a grade and do not count in the quality point ratio, class standing, or graduation with honors calculations. Students must take the tests while they are in high school. It is not possible to take the tests once a student is enrolled at The University of Akron. The State of Ohio, working through the University System of Ohio, has initiated policies to facilitate the ease of transition from high school to college as well as between and among Ohio's public colleges and universities.

Beginning in the Fall term 2009:

- Students obtaining an Advanced Placement (AP) exam score of 3 or above will be awarded the aligned course(s) and credits for the AP exam area(s) successfully completed
- Credits received will be applied toward graduation and may also satisfy a General Education or Honor's Distribution requirement if the course(s), to which the AP area is equivalent, fulfill those requirements

- If an equivalent course is not available for the AP exam area completed, elective or area credit will be awarded in the appropriate academic discipline and will be applied toward graduation where such elective credit options exist within the academic major
- Additional courses or credits may be available when a score of 4 or 5 is obtained. Award of credit for higher score values varies depending on the institution and academic discipline
- In academic disciplines containing highly dependent sequences (Sciences, Technology, Engineering and Mathematics –STEM) students are strongly advised to confer with their academic advisor to ensure they have the appropriate foundation to be successful in advanced coursework within the sequence. The [advanced placement table](#) lists disciplines available for Advanced Placement Testing, scores required for accruing credit and courses at The University of Akron for which credit may be earned For questions concerning Advanced Placement Credit call 330-972-7066 or 330-972-7425.

Bypassed Credit

Certain courses designated in this bulletin by each department enable an eligible student to earn "bypassed" credit. An eligible student who completes such a course with a grade of "C" or better may apply for and receive bypass credit for designated prerequisite courses which carry the same departmental code numbers. A student who completes such a course with a "C-" or lower will not be eligible to apply for or receive bypass credits. If the prerequisite course is required for graduation and the bypass attempt is unsuccessful, then the student must take the prerequisite course. Credit for such bypassed prerequisites shall be included in the total credits earned but shall not count in the quality point ratio, class standing or hours required for graduation with honors. Bypassed credit is not awarded on the basis of completing a course either credit-by-examination or credit/non-credit, or by completing a course as repeat for change of grade.

Discipline	Course	Prerequisite	Approved for Bypass Credit
Summit College			
Computer Information Systems	2440:202	2440:201	2440:201
	2440:203	2440:201	2440:201
	2440:204	2440:202-203	2440:201-203
	2440:301	2440:201-204	2440:201-204
English	2020:222	2020:121	2020:121
Mathematics	2030:152	2030:151	2030:151
	2030:153	2030:152	2030:151,2
	2030:154	2030:153	2030:152,3
	2030:161	2030:151	2030:151
	2030:255	2030:154	2030:152,3,4
	2030:356	2030:255	2030:154,255
Office Administration	2450:151	2540:150	2540:150
	2540:253	2540:151	2540:150,1

Buchtel College of Arts and Sciences

Discipline	Course	Prerequisite	Approved for Bypass Credit
Anthropology and Classical Studies	3210:122	3210:121	3210:121
	3210:223	3210:121,2	3210:121,2
	3210:224	3210:121,2,223	3210:121,2,223
	3210:303	3210:121,2,223,4	3210:121,2,223,4
	3210:304	3210:121,2,223,4	3210:121,2,223,4
	3510:122	3510:121	3510:121
	3510:223	3510:121,2	3510:121,2
	3510:224	3510:121,2,223	3510:121,2,223
	3510:303	3510:121,2,223,4	3510:121,2,223,4
	3510:304	3510:121,2,223,4	3510:121,2,223,4
Economics	3250:400	3250:201	3250:201
	3250:410	3250:200	3250:200
English	3300:112*	3300:111	3300:111
Geography and Planning	3350:314	3350:310	3350:310
	3350:442	3350:305	3350:305
	3350:444	3350:305	3350:305
Theoretical and Applied Mathematics	3450:210	3450:145	3450:145
	3450:215	3450:145 or 149	3450:145
	3450:221	3450:149	3450:149
	3450:222	3450:221	3450:149,221
	3450:223	3450:222	3450:221,222
Computer Science	3460:210	3460:209,3450:208	3460:209

Discipline	Course	Prerequisite	Approved for Bypass Credit
Modern Languages	3500:102	3500:101	3500:101
	3500:201	3500:102	3500:101,2
	3500:202	3500:201	3500:101,2,201
	3500:422	3500:202	3500:101,2,201,2
	3500:497	3500:202	3500:101,2,201,2
	3501:102	3501:101	3501:101
	3501:201	3501:102	3501:101,2
	3501:202	3501:201	3501:101,2,201
	3502:102	3502:101	3502:101
	3502:201	3502:102	3502:101,2
	3502:202	3502:201	3502:101,2,201
	3510:102	3510:101	3510:101
	3510:201	3510:102	3510:101,102
	3510:202	3510:201	3510:101,102,201
	3510:303	3510:202	3510:101,2,201,2
	3510:304	3510:202	3510:101,2,201,2
	3520:102	3520:101	3520:101
	3520:201	3520:102	3520:101,2
	3520:202	3520:201	3520:101,2,201
	3520:301,2,5,6	3520:202	3520:101,2,201,2
	3520:303,10,11	3520:202	3520:101,2,201,2
	3520:312,351	3520:202	3520:101,2,201,2
	3520:352	3520:202	3520:101,2,201,2
	3520:402	3520:351	3520:101,2,201,2
	3520:403,4	3520:302	3520:101,2,201,2
		3520:302	3520:101,2,201,2

Discipline	Course	Prerequisite	Approved for Bypass Credit
	3520:413	3520:301 or 302	3520:101,2,201,2
	3520:422	3520:202	3520:101,2,201,2
	3520:427,450	3520:305 or 306 and 302	3520:101,2,201,2
	3530:102	3530:101	3530:101
	3530:201	3530:102	3530:101,2
	3530:202	3530:201	3530:101,2,201
	3530:301,2	3530:202	3530:101,2,201,2
	3530:403,4	3530:302	3530:101,2,201,2
	3530:406,7	3530:302 or 306	3530:101,2,201,2
	3530:422	3530:202	3530:101,2,201,2
	3550:102	3550:101	3550:101
	3550:201	3550:102	3550:101,2
	3550:202	3550:201	3550:101,2,201
	3550:301,2	3550:202	3550:101,2,201,2
	3560:102	3560:101	3560:101
	3560:201	3560:102	3560:101,102
	3560:202	3560:201	3560:101,102,201
	3560:422	3560:202	3560:101,2,201,2
	3570:102	3570:101	3570:101
	3570:201	3570:102	3570:101,2
	3580:202	3570:201	3570:101,2,201
	3580:112	3580:101 or 111	3580:101
	3580:201	3580:101 or 111	3580:101
	3580:202	3580:102 or 112	3580:101,2
	3580:211	3580:201 or 211	3580:101,2,201
	3580:212	3580:102 or 112	3580:101,2
	3580:301,2,3	3580:201 or 211	3580:101,2,201
		3580:202	3580:101,2,201,2
	3580:340	two of 3580:301,2,3	3580:101,2,201,2
	3580:351,401,2,3	3580:301,2,3	3580:101,2,201,2
	3580:404,5,6,10	3580:401,2,3	3580:101,2,201,2
	3580:407,8	3580:340 and two of 3580:401,2,3	3580:101,2,201,2
	3580:409, 11, 12, 15, 16, 18, 19, 22, 23, 25, 27, 30	3580:407 or 408	3580:101,2,201,2
	3580:431,2	two of group 3580:401,2,3	3580:101,2,201,2
Statistics	3470:262	3470:261	3470:261

College of Health Professions RN-BSN Sequence (Limited to Licensed Registered Nurses)

Discipline	Course	Prerequisite	Approved for Bypass Credit
	8200:336		8200:211, 217, 230, 350, 360, 370, 380, 410

College Level Examination Program (CLEP)

The College Level Examination Program (CLEP) is a national program that offers the opportunity to obtain college credit by examination. A variety of experiences may have prepared a person to earn college credit. The qualifying score required to receive credit for a specific course is determined by the Ohio Board of Regents and the Academic Department in which the course resides. Credits earned in this manner are included in the total credits completed but are not assigned a grade and do not count in the quality-point ratio, class standing, or graduation with honors calculations. CLEP examinations for credit toward any degree are not permissible in the term before graduation. Credit by CLEP may not be used to repeat for change of grade. CLEP tests are administered Monday through Friday, and on some Tuesday evenings. Contact the Counseling Center at 330-972-7084 to make a reservation and/or obtain more information. For more information regarding the CLEP information listed below, call 330-972-7066 or 330-972-7425.

The following guidelines outline the terms under which The University of Akron will accept the results of specified CLEP tests for college credit.

CLEP Test	Qualifying Score	Course(s) Awarded	Credit Awarded
Business			
Financial Accounting	50 and above	6200:201 Principles of Accounting I	3
Information Systems and Computer Applications	Course equivalency not determined at time of publication		
Introduction to Business Law	50 and above	6400:220 Legal and Social Environment of Business	3
Principles of Management	50 and above	6500:301 Management: Principles and Concepts	3
Principles of Marketing	50 and above	6600:300 Marketing Principles	3
Composition and Literature			
American Literature	Course equivalency not determined at time of publication		
Analyzing and Interpreting Literature	Course equivalency not determined at time of publication		

CLEP Test	Qualifying Score	Course(s) Awarded	Credit Awarded
College Composition/College Composition Modular		Course equivalency not determined at time of publication	
English Composition		Course equivalency not determined at time of publication	
English Literature		Course equivalency not determined at time of publication	
Freshman College Composition plus essay	60 and above	3300:111 English Composition I	4
History and Social Sciences			
American Government	50 and above	3700:100 Government and Politics in the United States	4
History of the United States I		Course equivalency not determined at time of publication	
History of the United States II		Course equivalency not determined at time of publication	
Human Growth and Development		Course equivalency not determined at time of publication	
Intro. to Educational Psychology		Course equivalency not determined at time of publication	
Introductory Psychology	50 and above	3750:100 Introduction to Psychology	3
Introductory Sociology	50 and above	3850:100 Introduction to Sociology	4
Principles of Macroeconomics	50 and above	3250:201 Principles of Macroeconomics	3
Principles of Microeconomics		Course equivalency not determined at time of publication	
Social Sciences and History		Course equivalency not determined at time of publication	
Western Civilizations I		Course equivalency not determined at time of publication	
Western Civilizations II		Course equivalency not determined at time of publication	
Modern Languages			
French Language	55 to 65	3520:101 Beginning French I 3520:102 Beginning French II	4 4

CLEP Test	Qualifying Score	Course(s) Awarded	Credit Awarded
	66 and above	3520:101 Beginning French I 3520:102 Beginning French II and 3520:201 Intermediate French I 3520:202 Intermediate French II	4 4 3 3
German Language	55 to 65	3530:101 Beginning German I 3530:102 Beginning German II	4 4
	66 and above	3530:101 Beginning German I 3530:102 Beginning German II and 3530:201 Intermediate German I 3530:202 Intermediate German II	4 4 3 3
Spanish Language	55 to 65	3580:101 Beginning Spanish I 3580:102 Beginning Spanish II	4 4
	66 and above	3580:101 Beginning Spanish I 3580:102 Beginning Spanish II and 3580:201 Intermediate Spanish I 3580:202 Intermediate Spanish II	4 4 3 3
Science and Mathematics			
Biology	50 and above	3100:103 Natural Science: Biology	4
Calculus	Course equivalency not determined at time of publication		
Chemistry	50 and above	3150:101 Chemistry for Everyone or 3150:151 Principles of Chemistry I 3150:152 Principles of Chemistry I Lab or 3150:110 Intro to General, Organic and Biochemistry I	4 3 1 3 3
College Algebra	50 and above	3450:145 College Algebra	4
College Mathematics	Course equivalency not determined at time of publication		

CLEP Test	Qualifying Score	Course(s) Awarded	Credit Awarded
Natural Sciences		Course equivalency not determined at time of publication	
Precalculus		Course equivalency not determined at time of publication	

Credit by Examination

A student interested in earning credits by special examination may do so with the permission of the dean of the student's college and the dean of the college in which a particular course is offered and by payment of the special examination fee. The grade obtained in such an examination is recorded on the student's permanent academic record. Credit by examination is not permitted in the semester before graduation. Credit by examination may not be used to repeat for change of grade.

International Baccalaureate

The University of Akron recognizes the academic quality of the International Baccalaureate (IB) program and the efforts of students enrolled in IB coursework by awarding advanced-standing credit for the completion of the IB Diploma. Higher level examination scores are considered for departmental credit in the areas of French, Spanish, German, Geography, Latin, Greek, Economics, Chemistry, History, English, Social Anthropology, Mathematics, Music and Physics. Although minimum scores for the awarding of credit may vary by subject area, generally scores of four or five are sufficient. No credit is awarded for IB Subsidiary examinations, with the exception of some foreign languages.

Military Credit

Ohio GI promise, created through Executive Order 2008-17S in July 2008, calls for all University System of Ohio institutions to participate in the Servicemembers Opportunity Colleges (SOC) Consortium. This membership guarantees that The University of Akron will work with veterans to award military credit towards degree completion.

Veteran students should request a copy of their credit from The American Council on Education (ACE) and send this transcript to the Transfer Student Services Center, Akron, Ohio 44325-2001. The credit will be evaluated and posted to the student's record upon enrollment at The University of Akron. Students should consult with academic advisors to determine how military training, experience and coursework credits can be used most effectively in meeting degree requirements.

Postsecondary Enrollment Options

The Postsecondary Enrollment Options (PSEO) was created by the Ohio legislature to allow high school students to enroll in a college or university. The program is available to qualified students who are enrolled in public and non-public high schools.

Through the PSEO, high school students are eligible to enroll in The University of Akron for the fall and spring semesters. Prospective students should work with their high school counselors to discuss specific high school policies.

Option A: allows students to receive college credit only. All costs associated with enrollment including, but not limited to, textbooks, materials, supplies, tuition and fees, are the responsibility of the student.

Option B: allows students to receive both high school graduation credit and college credit simultaneously. For public high school students, the college will be paid directly out of the public school's state funds. Non-public students are subsidized by a specific sum of money set aside by the Ohio General Assembly, and funds are awarded on a first-come, first-serve basis. Required textbooks, non-consumable materials and tuition and fees related to the coursework are provided for both public and non-public students.

Enrollment options are not intended to be a substitute for the academic programs, social growth or maturing experience provided by Ohio's public and private high schools or otherwise interfere with or replace advanced placement courses or the college preparatory curriculum available to students within their school system.

A student in grades 9-12 may enroll in the PSEO program. The PSEO programs are limited and selective. The University has the right to accept only as many qualified students as can be properly served.

Eligibility Requirements

For 11th and 12th grade participants:

- 3.30 cumulative GPA with a 24 ACT composite or combined 1110 SAT math and critical reading combined score, or 3.50 cumulative GPA with ACT/SAT scores for placement purposes (All students must submit an ACT/SAT score for placement purposes.)
- 11th and 12th graders may enroll in up to 14 credit hours per semester. If a student wishes to enroll in more than 14 credit hours per semester, he/she may appeal to the PSEO program coordinator.

For 9th and 10th grade participants:

- 3.75 cumulative GPA
- 26 ACT composite or 1150 SAT math and critical reading combined score
- Letter of recommendation from a guidance counselor supporting the student's preparedness for college level coursework
- Grade of at least a B+ in all English courses
- Write an essay, 500 words or less, regarding why the student wants to enroll in the program

Please note: 9th and 10th grade students may enroll in only one course per semester.

How to Apply for Admission

Application deadlines for the fall and spring semesters are May 15 and October 15, respectively. All application materials must be postmarked by the deadline to be considered for admission.

1. Complete the online [Undergraduate Admission Application](#) under the section "Applicant Status," check the box marked Postsecondary Options Programs Option A or B.
2. Student, parent or guardian, and high school counselor signatures are also required and should be submitted with other application materials. A signature form is provided online after you submit your completed online application.
3. Submit a non-refundable \$40 application fee (unless it has previously been paid). A credit card option payment is available on the online application.
4. Submit an official high school transcript. For applicants in the 8th grade, the transcript should include 7th and 8th grades. For applicants in the 9th grade, transcripts should include 8th and 9th grades.

5. Include the College Prep Form completed and signed by your high school guidance counselor.
6. Submit ACT and SAT score results. We prefer scores to be sent directly from the testing agency but will accept scores posted on the official high school transcript.

Information regarding acceptance into the PSEO program, registration for classes and academic advising will be forthcoming in the "acceptance packet" for the PSEO program.

Tech Prep

College Tech Prep is value-added education. This program integrates technical training and college preparatory academics beginning in high school and continuing through a minimum of an associate degree. College Tech Prep prepares students for highly skilled occupations supported by regional business and industry in the areas of business, information, health and engineering technologies. The College Tech Prep pathway is a skill-building curriculum jointly designed by business, high schools and colleges. The pathway links the high school experience with a college degree program.

Application fees are waived for College Tech Prep students entering The University of Akron. Students have the potential to earn college credit, gain advanced skills and have a clearer sense of career direction while they are still in high school.

For additional information regarding the College Tech Prep programs, contact Nicole Mullet, Tech Prep Director, at 330-972-7112.

Tech Prep Postsecondary Enrollment Option

For Tech Prep students interested in the Postsecondary Enrollment Option, the entrance level grade point average (GPA) is 3.0 overall with a 21 or higher composite score on the ACT. The college may admit a student with a lower GPA and/or ACT on a case-by-case basis.

All Tech Prep students will be required to obtain a formal written recommendation letter from the high school (guidance counselor or principal) that indicates the support of the school and that the student shows promise in their technical field.

Tech Prep Postsecondary students will be limited to college coursework that is directly related to the associate degree program in their specific Tech Prep Pathway. Students meeting the above requirements will be eligible for PSEO Option B (Option B allows students to receive high school graduation credits and college credit simultaneously. Textbooks, materials, tuition and fees related to the coursework are provided at public expense.)

Additionally, the application fee will be waived for Tech Prep Postsecondary students.

Interested Tech Prep students should take the following steps:

- Obtain a Tech Prep Postsecondary Enrollment Application from the Office of Admissions, The University of Akron, Akron, OH 44325-2001 or from their high school or career center guidance counselor
- Complete and return the application with the recommendation letter and required signatures to Nicole Mullet, Tech Prep Director, The University of Akron, Akron, OH 44325-6001
- Information regarding acceptance into the program, registration for classes and academic advising will be forthcoming in a letter of admission to the Tech Prep Postsecondary Enrollment Options Program

Transfer Credit

The Transfer Credit policy is subject to the appropriate approval process and as such may be subject to change.

The University of Akron awards transfer credit for non-remedial, non-developmental college-level coursework completed with earned grades of "D-" or better at an institution of higher learning in the United States which is fully accredited or has been granted candidacy status by one of the following regional institutional accrediting agencies: Middle States Association of Colleges and Schools, Commission on Higher Education; New England Association of Schools and Colleges, Commission on Institutions of Higher Education; North Central Association of Colleges and Schools, Higher Learning Commission; Northwest Commission on Colleges and Universities; Southern Association of Colleges and Schools, Commission on Colleges; Western Association of Schools and Colleges, Accrediting Commission for Community and Junior Colleges; Western Association of Schools and Colleges, Accrediting Commission for Senior Colleges and Universities. A summary of the number of credits accepted will be listed on the official academic transcript along with the name of the institution and dates of attendance.

No grade point value will appear on the record; and no grade point average will be calculated for the coursework listed. Transfer students shall be accorded the same class standing and other privileges as all other students on the basis of the number of credits earned. All residency requirements must be completed successfully at the receiving institution prior to the granting of a degree.

CLEP or Advanced Placement Credit posted on transcripts from previously attended regionally accredited Ohio colleges and universities is eligible for credit at The University of Akron. CLEP or Advanced Placement credit posted on transcripts from previously attended regionally accredited non-Ohio colleges and universities is not eligible for credit at The University of Akron. Students must present original documentation attesting to scores earned prior to receiving alternative credit considerations.

The University of Akron does not guarantee that a transfer student automatically will be admitted to all majors, minors or fields of concentration at the institution. For courses that have been taken at an institution of higher education noted in the reference above, the dean of the college in which the student intends to obtain a degree will specify which courses, other than General Education courses, will apply toward the degree requirements of the University. The office responsible for transfer student services will specify which courses listed will apply toward the General Education program requirements.

Transfer students must meet all University of Akron residency requirements.

For other types of transferable credit, please see the section on Alternative Credit Options.

Note: Official transcripts and/or documentation for alternative credit can be obtained from the following web sites:

- www.acenet.edu
- www.collegeboard.com
- www.collegeboard.org/clep
- www.getcollegecredit.com

Graduation Requirements

- [Requirements for Baccalaureate and Associate Degrees](#)
- [Requirements for Additional Baccalaureate and Associate Degrees](#)
- [Change of Requirements](#)
- [Graduation with Honors](#)

Requirements for Baccalaureate and Associate Degrees

A candidate for the baccalaureate or the associate degree must:

- File an application for graduation online with the Office of the University Registrar; If the candidate plans to complete degree requirements at the end of the fall semester, submit an application by or before July 1; If the plan is to complete degree requirements at the end of the spring semester, submit an application by or before December 1; Submit an application by or before April 1 for Summer Commencement
- Earn a minimum of 120 credits for a baccalaureate degree, 60 credits for an associate degree (some programs of study may require more credits) with a minimum 2.00 grade point average as computed by the Office of the University Registrar for work attempted at the University consistent with the Repeating Courses policy; Some of the colleges may have by action of their faculties, adopted a higher grade-point average for graduation with a degree from that college; The grade point average achieved at the time of completion of requirements for a degree will include repeated and reassessed courses which will be used to calculate graduation honors
- Meet all degree requirements including grade-point averages that are in force at the time a transfer is made to a degree-granting college; If the student should transfer to another major, then the requirements should be those in effect at the time of the transfer; For a student enrolled in an associate degree program, the requirements shall be those in effect upon entrance into the program
- For purposes of meeting foreign language requirements, all foreign language and "American Sign Language" courses can fulfill the foreign language requirement for those programs that have a non-specific foreign language requirement; For those majors or programs that specify specific language requirements, the applicable specific language requirement must be met to satisfy graduation requirements for that major or program
- Be approved for graduation by appropriate college faculty, Faculty Senate and Board of Trustees
- Complete the requirements for a degree in not more than five calendar years from the date of transfer, as defined below; In the event the student fails to complete the degree requirements within five calendar years from the date of transfer, the University reserves the right to make changes in the number of

credits and/or courses required for a degree

- The date of transfer for a student in a baccalaureate program will be the date that the student is accepted by the degree-granting college; For a student enrolled in an associate degree program, the date of transfer refers to the date of entrance into the program
- Earn the last 30 credits in the baccalaureate degree total or 15 credits in the associate degree total in residence at The University of Akron unless excused in writing by the dean of the college in which the student is enrolled
- Earn a minimum of 30 credits in the baccalaureate degree total or 15 credits in the associate degree total in residence at The University of Akron
- If a student who has transferred from another institution wishes to present for the student's major fewer than 14 credits earned at The University of Akron, written permission of both the dean and the head of the department concerned is required
- Discharge all other obligations at the University

Requirements for Additional Baccalaureate and Associate Degrees

- Meet all of the requirements given above - Requirements for Baccalaureate and Associate Degrees
- Earn a minimum of 30 credits which have not counted toward a baccalaureate degree, for an additional baccalaureate degree, or 15 credits which have not counted toward an associate degree, for an additional associate degree; These credits shall be earned in residence at The University of Akron

Change of Requirements

To better accomplish its objectives and serve our students, the University reserves the right to alter, amend or revoke any rule or regulation. The policy of the University is to give advance notice of such change, whenever feasible.

Unless the change in a rule or regulation specifies otherwise, it shall become effective immediately with respect to the student who subsequently enters the University, whatever the date of matriculation.

Without limiting the generality of its power to alter, amend or revoke rules and regulations, the University reserves the right to make changes in degree requirements of the student enrolled prior to the change by:

- Altering the number of credits and/or courses required in a major field of study
- Deleting courses
- Amending courses by increasing or decreasing the credits of specific courses, or by varying the content of specific courses
- Offering substitute courses in the same or cognate fields

The Dean of the college, in consultation with the Department or Division Head of the student's major field of study, may grant waivers in writing if a change in rules affects degree requirements of a student enrolled before the change was effective. The action of the Dean of the college in granting or refusing a waiver shall be reviewed by the Senior Vice President and Provost and Chief Operating Officer on his motion, at the request of the Dean of the college of the student affected, or at the request of the student.

Credit and grade-point requirements for graduation as adopted by the college faculties are listed in this bulletin.

When deemed necessary and only in rare and unique circumstances that do not undermine the overall integrity of the various graduation requirements, the Senior Vice President and Provost and Chief Operating Officer, in consultation with the President, may waive specific requirements contained in this rule and report such waivers to the Board of Trustees for its information.

Graduation with Honors

Honors announced at the commencement ceremony are determined from the Grade Point Average as of the end of the term prior to the graduation term. The number of credit hours for the commencement ceremony included the total number of credit hours completed at The University of Akron plus the number of credit hours in progress at The University of Akron. Official honors are determined after ALL final grades have been reported on the academic record. All graded courses, including repeated and reassessed courses, are included in both determinations. The official honors designation will be posted to the diploma and academic transcript.

- A student who holds a baccalaureate degree from an accredited institution, including The University of Akron, and who earns subsequent baccalaureate degree at The University of Akron per the academic policy requirements for second degrees, is eligible to graduate with honors.

For a student who is being awarded a baccalaureate degree and who has completed 60 or more credits at The University of Akron, the degree

Will be Designated If the Overall Grade Point Average Is

Cum Laude between 3.4 and 3.59

Magna Cum Laude between 3.60 and 3.79

Summa Cum Laude 3.80 or higher

- A student who holds an associate degree from an accredited institution, including The University of Akron, and who earns a subsequent associate degree at The University of Akron per the academic policy requirements for second degrees, is eligible to graduate with honors.

For a student who is being awarded an associate degree and who has completed 30 or more credits at the University, the degree

Will be Designated If the Overall Grade Point Average Is

with distinction between 3.4 and 3.59

with high distinction between 3.60 and 3.79

with highest distinction 3.80 and higher

- Where deemed necessary, the Senior Vice President and Provost and Chief Operating Officer may waive these requirements for rare and unique circumstances and report such waivers to the Board of Trustees for its information.

Grade Policies and Credit

- [Grades and the Grading System](#)
- [Importance of Grades](#)
- [Dean's List](#)
- [Part-Time Student Dean's List](#)
- [Probation-D dismissal](#)
- [Repeating Courses](#)
- [Course Substitution Policy](#)
- [Academic Reassessment](#)
- [Academic Misconduct](#)
- [Credit/Noncredit Option](#)
- [Audit Policy](#)
- [Transient Work at Another University](#)

Grades and the Grading System

A student will receive grades on various types of classroom performance during the progress of most courses and a final grade at the end of the term. At the end of the term, grades are available online. Individual tests are usually graded with percentage or letter marks, but official academic records are maintained with a grade-point system. Overall scholastic averages are computed on a quality point ratio basis, wherein the sum of the quality points earned is divided by the sum of the credits attempted. The quality point value per credit for each letter grade is shown in the following tables:

Grade	Quality Points	Key
A	4.0	
A-	3.7	
B+	3.3	
B	3.0	
B-	2.7	
C+	2.3	
C	2.0	
C-	1.7	
D+	1.3	
D+	0.0	Graduate Courses Only
D	1.0	
D	0.0	Graduate Courses Only

Grade	Quality Points	Key
D-	0.7	
D-	0.0	Graduate Courses Only
F	0.0	Failure
I	0.0	Incomplete
IP	0.0	In Progress
AUD	0.0	Audit
CR	0.0	Credit
NC	0.0	Noncredit
WD	0.0	Withdrawn
NGR	0.0	No grade reported
INV	0.0	Invalid grade reported
PI	0.0	Permanent Incomplete
R	0.0	Repeat

Notes: Prior to Fall Semester 1973 cumulative grade point averages included transfer work. A student cannot raise a grade through re-examination.

I - Incomplete: Indicates that the student has done passing work in the course but that some part of the work is, for good and acceptable reason, not complete at the end of the term. Failure to make up the omitted work satisfactorily by the end of exam week of the following term, not including summer sessions, converts the "I" to an "F." When the work is satisfactorily completed within the allotted time, the "I" is converted to whatever grade the student has earned. It is the responsibility of the student to make up the incomplete work. The faculty member should submit the new grade to the Office of the University Registrar on a change of grade form, which is available through MyAkron. If the instructor wishes to extend the "I" grade beyond the following term for which the student is registered, the instructor should submit an incomplete extension form, which is available through MyAkron, before the end of the semester.

IP - In Progress: Indicates that the student has not completed the scheduled coursework during the semester because the nature of the course does not permit completion within a single semester, such as work toward a thesis. An "IP" grade should be assigned only in graduate courses.

PI - Permanent Incomplete: Indicates that the student's instructor and the dean with jurisdiction over the course may for special reason authorize the change of an incomplete "I" to a permanent incomplete "PI."

WD - Withdraw: Indicates that the student registered for the course but withdrew officially after the 15th day of the term.

NGR - No Grade Reported: Indicates that, at the time grades were processed for the current issue of the record, no grade had been reported by the instructor.

INV - Invalid: Indicates the grade reported by the instructor of the course was improperly noted and thus unacceptable for proper processing.

Importance of Grades

Grades determine whether a student is either eligible or ineligible to remain at the University. Eligibility to participate in the 200-plus registered student organizations and other co-curricular activities is dependent on the student's maintenance of good academic standing at the University. A student who has not been placed on probation or dismissed from the University is deemed to be in good academic standing. Some selective organizations such as honoraries and varsity athletics require special eligibility criteria. On the basis of grades, a student receives opportunities to take additional courses to accelerate academic progress. Acceptance for admission to a college depends on the approval of the dean of the college which the student chooses to enter and on the student's academic performance to date.

Dean's List

Undergraduate students who carry 12 graded credits or more without receiving an "Incomplete" or "In Progress" grade and earn a grade point average of 3.25 or better are eligible for inclusion on the Dean's List of their respective college. This is an undergraduate academic honor recognizing excellence in the classroom prior to the completion of the degree. Developmental Program course load hours do not carry academic credit toward a degree and are not considered in determining Dean's List honors but do count in computing a student's course load for financial aid or student employment, and are used in probation and dismissal decisions.

Part-Time Student Dean's List

Undergraduate part-time students who carry between 6 and 11.5 graded credits without receiving an "Incomplete" or "In Progress" grade and earn a grade point average of 3.25 or better are eligible for inclusion on the Part-Time Student Dean's List of their respective college. This is an undergraduate academic honor recognizing excellence in the classroom prior to the completion of the degree. Developmental Program course load hours do not carry academic credit toward a degree and are not considered in determining Part-Time Dean's List honors but do count in computing a student's course load for financial aid or student employment, and are used in probation and dismissal decisions.

Probation-Dissmissal

An undergraduate student who fails to maintain a grade-point average of 2.00 ("C") is placed on academic probation and may be subject to a change of courses, dismissal, or some other form of discipline. Academic discipline is determined by the dean of the college in which the student is enrolled. Reinstatement of a student is determined by the dean of the college from which the student was dismissed. Once dismissed from the University, a student is not eligible to register for credit courses until readmitted.

Repeating Courses

Any course may be repeated twice by an undergraduate student subject to the following conditions:

- To secure a grade ("A-F") a student may repeat a course in which the previously received grade was a "C-," "D+," "D," "D-," or "F," "CR," "NC," or "AUD." Registrations under the "CR/NC" option are subject to the restrictions in the "CR/NC" policy
- To secure a "CR," a student may repeat a course in which the previously received grade was a "NC." Registrations under the "CR/NC" option are subject to the restrictions in the "CR/NC" policy
- To secure a grade ("A-F"), "CR," "NC," a student may repeat a course in which the previously received grade was an "AUD." Registrations under the "CR/NC" option are subject to the restrictions in the "CR/NC" policy
- A graded course ("A-F") may not be repeated for a grade of "AUD"
- A course taken under the "CR/NC" option may not be repeated for a grade of "AUD"
- With the dean's permission, a student may substitute another course if the previous course is no longer offered. Courses must be repeated at The University of Akron
- Grades for all attempts at a course will appear on the student's official academic record
- Only the grade for the last attempt will be used in the grade-point average
- All grades for attempts at a course will be used in grade-point calculation for the purpose of determining graduation with honors and class standing
- For purposes of this section, credit for this course or its equivalent will apply only once toward meeting degree requirements

Course Substitution Policy

The University of Akron recognizes that some students may be unable to satisfy specific coursework requirements for degree completion. Therefore, the student may request a course substitution. A course substitution is not appropriate when the specific course(s) is essential to the degree being sought and a substitution would represent a fundamental alteration of the program. The process for requesting a course substitution is as follows:

The student contacts his/her advisor and requests a course substitution.

- If the request(s) is based on a disability, the Office of Accessibility shall be consulted and shall assist the advisor and student in the facilitation of a solution
- If the advisor approves, an appropriate substitution is agreed upon and the recommendation with rationale is forwarded to the department chair or school director for approval
- The student shall be advised of and sign an informed consent form which is forwarded with the recommendation and which states the following:
 - You have been advised that this substitution is only applicable in this college and is not binding on any other college within the University
 - You understand that a course substitution may ultimately affect further studies at this university or other colleges and universities including graduate studies
- If the department chair or school director approves, the recommendation with rationale is forwarded to the Dean
- If the Dean approves, the office of the Dean shall notify all parties concerned

- Approved course substitutions should be entered into the DARS academic progress system by the appropriate office
- If the Dean disapproves, the student may request a review by the Senior Vice President and Provost and Chief Operating Officer

Academic Reassessment

To be eligible for academic reassessment, a student shall:

- Have not attended The University of Akron for at least three calendar years. A semester or summer session in which the student received all "WD" grades cannot be counted as part of the separation period; and
- Have re-enrolled and maintained a grade point average of 2.5 or higher for the first 24 letter-graded ("A" through "F") hours attempted at The University of Akron; and
- Have not used academic reassessment before at The University of Akron; and
- Submit a written request for academic reassessment to the student's college dean's office. To apply for academic reassessment, the student shall complete the appropriate form in consultation with his/her academic advisor. The Office of the University Registrar shall confirm eligibility and make the adjustments to the student's academic record.
- The student begins with a new cumulative grade point average and adjusted credit hour totals. Credit hours are defined as semester hours. Only grades with a "C-" or lower may be reassessed. The student, in consultation with his/her academic advisor, shall identify the courses to be reassessed. Grades to be reassessed shall come from the time period prior to the student's re-enrollment following the three-year absence.
- Grades earned for the courses that are reassessed at The University of Akron are excluded from the calculation of the cumulative "GPA," but will remain on the student's official transcript
- Credit hours earned for courses at The University of Akron during the previous enrollment with a grade of "C" or better, including "CR," are retained
- Credit hours from all reassessed courses taken during the previous enrollment at The University of Akron with a grade of "C-" or lower are removed from the calculation of the cumulative "GPA" (although the grades are retained on the academic transcript with the notation "academic reassessment policy")

The Office of the University Registrar will apply the following provisions of the academic reassessment policy:

- When counting the first 24 credits attempted, if the 24th credit is part of other credits earned during a semester, the entire number of credits earned for that semester will be calculated into the grade-point average
- An undergraduate student may utilize this academic reassessment policy only one time in his/her career at The University of Akron
- This policy applies to undergraduate course work taken at The University of Akron and only for undergraduate students earning a first undergraduate degree
- Grades from all courses ever taken at The University of Akron and the resulting "GPA" (unadjusted by the academic reassessment policy) will be used for purposes of determining eligibility for university, departmental or professional honors or other recognition based upon the student's undergraduate academic career and record of academic performance
- Any academic probations, suspensions or dismissals from reassessed semesters shall not be forgiven. They will count when the probation-dismissal policy is applied to the student's record after readmission

- A student may seek an exception to this policy through an appeal to the senior vice president and provost and chief operating officer whose decision will be final

Academic Misconduct

Students at The University of Akron are an essential part of the academic community, and enjoy substantial freedom within the framework of the educational objectives of the institution. The freedom necessary for learning in a community so rich in diversity and achieving our educational objectives requires high standards of academic integrity. The University community is governed by the policies and regulations contained within the Code of Student Conduct. Contact the Department of Student Judicial Affairs in Student Union 216, at sja@uakron.edu or 330-972-6380. The University of Akron considers academic integrity an essential part of each student's personal and intellectual growth. Instances of academic misconduct will be addressed. All members of the community contribute actively to building a strong reputation of academic excellence and integrity at The University of Akron. It is each student's responsibility to know what constitutes academic misconduct and to seek clarification directly from the instructor if necessary. Examples of academic misconduct include, but are not limited to:

- Submission of an assignment as the student's original work that is entirely or partly the work of another person
- Failure to appropriately cite references from published or unpublished works or print/non-print materials, including work found on the World Wide Web
- Unauthorized copying of an assignment in computer programming, or the unauthorized examination or view of the computer, specifically during examinations
- Possession and/or unauthorized use of tests, notes, books, calculators or formulas stored in calculators not authorized by the instructor during an examination
- Providing and/or receiving unauthorized information from another student to complete an assignment
- Observing or assisting another student's work
- Violation of the procedures prescribed by the professor to protect the integrity of the examination
- Cooperation with a person involved in academic misconduct

An incident of academic misconduct may be resolved and a sanction assessed in a meeting between the faculty member and student. If the student and faculty member agree on the facts of the incident and the proposed sanction, the matter can be resolved informally. Prior to an informal resolution, the faculty member shall confer with Student Judicial Affairs to determine whether any prior academic misconduct has occurred. If the student and the faculty member disagree about the facts of the incident or the proposed sanction, then the matter shall be referred to Student Judicial Affairs. When the matter is referred to the Department of Student Judicial Affairs, a meeting will occur and, if the information indicates it is more likely than not that an academic misconduct violation has occurred, the office will follow procedures.

Credit/Noncredit Option (undergraduate and post baccalaureate only)

A student who takes a course on a "credit" or "noncredit" (CR/NC) basis, and who earns a grade equivalent to "A" through "C-," shall receive credit ("CR") for the course and have the grade, "CR," placed on the permanent record; a grade equivalent to "D+" through "F" will be recorded with the noncredit grade, "NC."

For the baccalaureate degree, no more than 16 credits of non-language courses and no more than 20 credits in total (including language courses) are permitted to be taken on a CR/NC basis. For the associate degree, no more than eight credits of non-language courses and no more than 10 credits in total, including language courses, is permitted.

A student is eligible for the CR/NC option if the student has:

- Completed 50% of the number of credits required for a degree
- A GPA of at least 2.30
- The consent of an advisor

The CR/NC option is available only at the time of registration for the course. After the first week of the term or first two days of a summer session, the status cannot be changed. The University Registrar will notify the instructor of those students utilizing the CR/NC option by means of the final class list.

Courses that can be taken on a CR/NC basis:

- One free elective (not in major field) course per term
- Any first- and/or second-year foreign language course at any time, regardless of grade-point average

Courses that cannot be taken CR/NC:

- Any General Education courses
- Courses required by colleges and departments of all undergraduate majors

Courses for which "CR" is awarded will be counted as hours completed only; courses for which "NC" is awarded shall not be counted as hours attempted; in neither case shall "CR" or "NC" be considered in calculating grade-point average, but in both instances the course shall be entered on the student's official academic record. A student may repeat a course for credit (CR), or a grade (A-F) after receiving a grade of "NC." A college may designate in the printed schedule, on an annual basis, a course as not available to be taken on a "CR/NC" basis. A student taking a course on a "CR/NC" basis is expected to meet the full requirements of the course as required by the instructor.

Audit Policy

A student choosing to audit a course must elect to do so at the time of registration. The student pays the enrollment fee and may be expected to do all the work prescribed for students taking the course for credit, except that of taking the examination. Any faculty member may initiate withdrawal for a student not meeting these expectations.

Transient Work at Another University

The purpose of transient work is to provide The University of Akron student with opportunity to: 1) take a course that is not offered at The University of Akron; or, 2) if the student is away in the summer, to take a course in a distant location; or, 3) in rare cases, a student who is only a few credits shy of graduation and must leave The University of Akron due to extenuating circumstances. These courses will be listed on The University of Akron official academic record. Each course will reflect the course number, title, grade and credit value; no grade-point value will appear on the record and the grade for such course will not be included in The University of Akron grade-point calculation. The name of the institution will be listed on The University of Akron official academic record as well as the date that the coursework was taken.

Any University of Akron student who wishes to take coursework at another regionally accredited institution of higher education must receive prior approval by the academic dean of the appropriate unit if the student intends to apply this coursework toward a degree at The University of Akron.

- A student can make an official request for transient credit by submitting a Transient Permission Form. If the coursework taken at another institution will be used to satisfy The University of Akron General Education requirements, prior written permission to take the course must be received from the office responsible for transfer student services unless the course has been previously approved as an equivalency by The University of Akron.
- If the coursework taken at another institution will be used to satisfy a degree granting college degree requirement or as elective credit, prior written permission to take the course must be received from the dean of the student's degree granting college unless the course has been previously approved as an equivalency by The University of Akron.
- A student must earn a grade of "D-" or better in the course at the other institution in order for the credits to apply toward the student's degree requirements at The University of Akron unless otherwise specified by the degree-granting college. The student must provide the official transcript for the course in order to receive credit.
- No more than 18 total credit hours of transient work may be approved prior to the granting of a baccalaureate degree. No more than nine total credit hours of transient work may be approved prior to the granting of an associate degree.
- Approvals for transient attendance at other institutions are valid for only the requested term and are subject to all restrictions of the dean of the college approving the request for transient credit.
- Students who are on probation, dismissed or are in the last 30 hours of a baccalaureate degree or are in the last 15 hours of an associate degree are restricted or denied transient permission by either the dean of the degree granting college or the dean of the University College except in rare and compelling circumstances.

Note: Coursework taken at another institution cannot be considered for The University of Akron's *Repeat for Change of Grade* policy or *Academic Reassessment* policy and will not be calculated into the UA grade point average.

Colleges and Programs

The University of Akron offers comprehensive programs of instruction leading to the associate (two-year), bachelor's (four-year), master's (graduate), and doctoral (graduate or professional) degrees.

Buchtel College of Arts and Sciences

Buchtel College of Arts and Sciences is the largest and oldest degree-granting college at The University of Akron. In addition to providing a world-class education in an array of bachelor's, master's and doctoral degree programs, Buchtel College provides the majority of general education courses for the University. E.J. Thomas Performing Arts Hall, the region's flagship performance venue, is home to many arts performances for the college.

The College has four administrative divisions: Fine Arts, Humanities, Natural Sciences and Social Sciences.

The Fine Arts Division includes the Mary Schiller Myers School of Art; the Schools of Dance, Theatre, and Arts Administration; Music; and Family and Consumer Sciences. The Humanities Division includes the Departments of Anthropology and Classical Studies; English; Modern Languages; and Philosophy. The Natural Sciences Division includes the Departments of Biology, Chemistry, Computer Science, Geology and Environmental Science, Physics, Mathematics; and Statistics. The Social Sciences Division includes the Departments of Economics, History, Political Science, Psychology, Public Administration and Urban Studies (graduate only), Sociology, and the School of Communication.

Qualified students seeking hands-on career exploration experiences can enroll in internships and co-op opportunities. Students wishing to enrich their majors by completing a certificate, a minor or a double major are encouraged to do so. Interdisciplinary studies are readily available to Arts and Sciences students through the Humanities Division major, the Natural Sciences Division major, the Social Sciences Division major and the Bachelor of Arts Interdisciplinary Studies program.

- [About the College](#)
- [Programs of Instruction](#)
- [College Website](#)

College of Business Administration

The College of Business Administration (CBA) is a professional college of the University that is dedicated to teaching, business research and public service. The College is accredited by AACSB International - The Association to Advance the Collegiate Schools of Business and offers accredited baccalaureate and master's degree programs during the day and evening. It is home to the George W. Daverio School of Accountancy, Department of Finance, Department of Management and Department of Marketing.

- [About the College](#)
- [Programs of Instruction](#)
- [College Website](#)

College of Education

The College of Education is a community of professionals whose purpose is to provide leadership for community well-being through standard-setting programs that enhance teaching, learning and human development; research and inquiry; and outreach. It develops itself and others through continuous improvement and through a commitment to these core components of professional practice and scholarship: Knowledge, Technology, Diversity and Ethics.

The College is home to the departments of Counseling, Curricular and Instructional Studies, Educational Foundations and Leadership, and Sport Science and Wellness Education, as well as numerous centers and clinics. The College's programs include a balanced offering of a foundation in general education, intensive study in the content area and professional courses and other learning experiences which combine theory and practice.

- [About the College](#)
- [Programs of Instruction](#)
- [College Website](#)

College of Engineering

The College of Engineering provides educational opportunities for students at both the undergraduate and graduate levels who wish to pursue careers in engineering. The faculty in the College of Engineering perform research with the purpose of contributing new knowledge to the fields encompassed by engineering principles.

The College offers Bachelor of Science degrees in Biomedical Engineering, Chemical Engineering, Civil Engineering, Electrical Engineering, Computer Engineering, Mechanical Engineering, Mechanical Polymer Engineering and Engineering.

The College's co-op program, one of the oldest in the nation, enables student engineers to integrate classroom learning with on-the-job experience while they earn their degrees. Students can alternate semesters of paid employment in their major fields of interest with semesters on campus after they have completed five semesters of study.

- [About the College and Programs of Instruction](#)
- [College Website](#)

College of Health Professions

The College of Health Professions brings an interprofessional educational and collaborative approach to health care. This bold new approach significantly improves patient outcomes as doctors, nurses, dietitians, social workers and other health providers work together to treat the whole patient.

Students in nursing, dietetics, audiology, speech-language pathology, social work and other fields learn side by side so that as professionals, it will be natural to treat patients collaboratively.

Students benefit from close college ties with such health systems as the Cleveland Clinic Foundation, Summa Health System, Akron Children’s Hospital, the Northeast Ohio Medical University and the Austin BioInnovation Institute in Akron. Students engage in state-of-the-art simulation experiences, gain clinical experience and spend ample time learning collaboratively with fellow students and seasoned professionals in many disciplines.

- [About the College](#)
- [Programs of Instruction](#)
- [College Website](#)

Honors College

The Honors College supports high achieving and highly motivated students with challenging curriculum options, honors classes, academic scholarships, priority in registration, priority assignment to rooms in the honors residence, and enhanced computer and study facilities. Honors College students who complete the requirements of their academic majors and of the Honors College with cumulative grade-point averages of at least 3.40 are recognized at graduation as University Honors Scholars.

- [About the College](#)
- [College Website](#)

Summit College

Summit College offers associate and baccalaureate degree programs in a variety of technical areas, many of which are nationally accredited. It also offers certificates and minors, is home to the UA Police Academy, the Training Center for Fire and Hazardous Materials, the Center for Emergency Management & Homeland Security, and Workforce Development & Continuing Education at the University.

The College helps to further the goals and purposes of the University by emphasizing the following objectives:

- The College serves the student by providing the means to examine academic and career opportunities considering interests, abilities and achievements
 - The College provides for industry, business, government agencies, health-care establishments and human service occupations; pre-service and in-service training for entry-level positions and/or advancement in employment
 - Consistent with the philosophy of learning as a life-long experience, the College provides educational opportunities for the student no matter the age, background or need; full- or part-time, day or evening
 - The College provides quality instruction with qualified and experienced teachers who are encouraged to use the community as a “laboratory” for achieving educational goals
- [About the College](#)
 - [Programs of Instruction](#)

- [College Website](#)

Wayne College

To meet the needs of the citizens of Wayne, Holmes and Medina counties, The University of Akron Wayne College opened its doors in 1972. Wayne College offers technical programs and certificate programs, as well as the first 64 credits of many baccalaureate programs. The following degrees are available from The University of Akron Wayne College: Associate of Arts; Associate of Science; Associate of Technical Studies; Associate of Applied Business in Business Management Technology; Health Care Office Management and Computer and Business Technology; Associate of Applied Science in Paraprofessional Education and Exercise Science Technology.

- [About the College](#)
- [Programs of Instruction](#)
- [College Website](#)

Graduate School

www.uakron.edu/gradsch

The Graduate School offers advanced study to students who wish further education beyond the baccalaureate degree with programs leading to the master's degree as well as the doctoral degree. A separate publication detailing admission procedures and individual study requirements for graduate work is available from the Graduate School.

The *Graduate Bulletin* may be obtained online at www.uakron.edu/gradsch

Graduate School,
The University of Akron,
Polsky Building, Room 469,
Akron, OH 44325-2101

School of Law

www.uakron.edu/law

The School of Law provides legal education through day and evening classes and full and part-time programs leading to the Juris Doctor degree. J.D. candidates may obtain Certificates in Litigation, Intellectual Property, and Health Law. J.D. candidates may pursue the following joint degrees with other colleges: J.D./MBA and J.D./MTax (with the College of Business Administration), J.D./MPA (Master of Public Administration, with the Department of Public Administration and Urban Studies), J.D./MAP (Master of Applied Politics, with the Bliss Institute). The School of Law also offers an advanced degree, the LL.M. in Intellectual Property. J.D. students may enroll in the Joint J.D./LL.M. Program, in which they can earn both degrees in three years. Otherwise, an applicant for the LL.M. program must have a J.D. degree from an American law school or an equivalent degree from a foreign law school. An applicant to the J.D. program must take the Law School Admission Test and have a baccalaureate degree from an accredited college or university for J.D. admission. No particular course of undergraduate study is required for admission. A separate publication detailing admission requirements and the procedure for applying may be obtained by calling (330) 972-7331, or (800) 4-AKRON-U, or by e-mail: lawadmissions@uakron.edu.

You may also write to:
School of Law
The University of Akron
Akron, OH 44325-2901

College of Polymer Science and Polymer Engineering

www2.uakron.edu/cpspe

The College of Polymer Science and Polymer Engineering offers graduate degrees leading to the Master of Science and Doctor of Philosophy in both Polymer Science and Polymer Engineering. In addition, there are elective courses in both polymer science and polymer engineering for undergraduate science and engineering majors. Options that emphasize polymer engineering have been developed with the College of Engineering Departments of Chemical Engineering and Mechanical Engineering for undergraduate students interested in the polymer industry. An option has been developed in the Buchtel College of Arts and Sciences in chemistry that emphasizes polymer science, including advanced materials. Research experiences for one to three credits per semester are also offered, starting at the freshman level.

University - Additional Locations

<http://www.uakron.edu/provost/about/additional-locations.dot>

The University operates five educational centers in our surrounding communities.

Baccalaureate Programs

The University of Akron believes that the student should master basic courses in the humanities, social sciences, and physical sciences before proceeding to advanced work in the major. Both the University College concept and Summit College's College Success Program guarantee this mastery. Direct, Standard or Adult admit students seeking a baccalaureate degree and having attained less than 30 college semester credits study in the University College before transferring to a degree-granting college. General admit students seeking a baccalaureate degree study in Summit College's College Success Program before transferring to a degree-granting college. Studies in the University College develop students' abilities to understand and express ideas effectively and to comprehend the processes involved in accurate thinking. After completing the general studies phase, students are admitted to a degree-granting college, where they then concentrate on courses in their specific academic interests. Baccalaureate programs are offered in a variety of disciplines.

Associate Programs

Our fast-paced age of technological development needs persons specifically trained for work in the semiprofessional, technical, and highly skilled professions. Most critically needed are laboratory technicians, health technicians, engineering assistants, sales people, supervisors, secretaries and management assistants.

Certificate Programs

Students may add a dimension of depth to their education beyond a chosen major by pursuing one of the University's interdisciplinary or interdepartmental programs, which provide concentrated work in the following areas.

For a full listing of Baccalaureate, Associate, and Certificate Programs: www.uakron.edu/academics_majors/curriculum-guides

Student Support and Success

Students attend the University to learn and grow in all aspects of their lives. The University delivers programs and services that are designed to assist our diverse student body to maximize opportunities for academic, social, cultural, personal and physical growth and development. Sensitive to the changing needs of today's college student, The University is committed to helping students meet their individual academic and personal goals. This responsibility will be accomplished by our commitment to these objectives:

- Creating a civil, supportive learning environment
 - Providing academic support systems to increase student persistence and encourage satisfactory educational progress
 - Moving beyond tolerance to embrace and celebrate the rich dimensions of difference within each individual and within each culture, subculture and identity group, diversity is a core value that embodies inclusiveness and excellence within the University community
 - Collaborating with all constituencies within the University to increase enrollment and improve the quality of the student experience
 - Encouraging students to assume responsibility for their educational decisions and experiences
 - Identifying and addressing student needs in an evolving environment
 - Addressing the student and community needs through programs, activities and services
- ▶ Student Life and Living
- ▶ Support Services for Students

Student Life and Living

Off Campus Student Services

<http://www.uakron.edu/offcampus>

Phone - 330-972-5500

Off Campus Student Services (OCSS) is a resource center and an administrative office dedicated to helping commuter and off-campus students. OCSS is located in the Student Union, near the commuter lounge. Students may stop in for assistance during posted hours or by phone.

Student Recreation and Wellness Services

www.uakron.edu/srws/

Phone: 330-972-2348

Fax: 330-972-6715

With Student Recreation & Wellness Services, there is so much to explore! Their mission is to serve and engage all students to learn, develop and succeed through innovative recreation and wellness opportunities that encourage healthy and balanced lifestyles. The department includes the following: 1) Club Sports, 2) Aquatics, 3) Intramurals, 4) Outdoor Adventure Center, 5) Fitness & Wellness.

SRWS are comprised of two facilities:

- Student Recreation & Wellness Center (SWRC): Amenities include a leisure pool with a current river and vortex, spa, jogging track, cardio and strength equipment, five multi-function gyms, group exercise studios, climbing wall and adventure gear rental.
- Ocasek Natatorium (ONAT): Amenities include an Olympic-size swimming pool, racquetball courts and fitness area. This facility is still available at no cost for all enrolled students, faculty and staff.

Residence Life and Housing

<http://www.uakron.edu/reslife>

Phone - 330-972-7800

Email - reslife@uakron.edu

The Department of Residence Life and Housing is administratively responsible for managing the University's student housing program. The University provides reasonably priced, clean, convenient and secure residence hall facilities. In addition, the residence hall program is committed to providing a meaningful living/learning environment which directly supports the education, social and personal development of each student. The Department of Residence Life and Housing supervises and manages 12 on-campus residence hall facilities accommodating approximately 3,200 students. Students are encouraged to apply for residence hall accommodations as soon as possible.

Freshman Residential Policy Requirement

The University of Akron is committed to providing a learning environment supportive of its academic mission and complementary to its academic programs. The University acknowledges that national studies find that first-year freshman uniquely benefit from a residence hall experience. Social integration and access to faculty, staff and institutional resources are enhanced through an on-campus residential experience. The University considered and accepted findings that living on-campus positively influences academic persistence and success, including degree completion. For all these reasons, all first-year freshman students at The University of Akron are required to reside in University residence halls for the duration of their freshman academic year at the University as long as space is available. Upon admission to the University, all first-year freshman students will be required to make application for residence in University housing and will be assigned and assessed appropriate room and board fees, so long as space is available and/or unless the student is subject to one of the exemptions below.

Exemptions to the Freshman Residential Policy include:

- Permanent home residence with parents or legal guardians who reside in: Summit, Portage, Stark, Wayne or Medina counties
- Registered for fewer than 6 credit hours
- 21+ years of age
- Military experience 1+ years
- Married (proof of marriage required)
- Student is parent with custodial care responsibilities (proof of custody care required)
- Other extenuating circumstances, including but not limited to special dietary needs or conditions, cultural or religious needs or accommodations, undue hardship, or an other circumstance(s) in support of an exemption which, if not granted, would undermine or contravene the purpose of the Freshman Residential Requirement Policy

Students seeking exemption from the Freshman Residential Policy should contact the Department of Residence Life and Housing to request the Freshman Residential Requirement Policy and Exemption Procedures and Petition packet, or can visit the Resident Life and Housing web site and download the necessary forms.

Support Services for Students

- [Academic Advising](#)
- [Inter-college Transfer \(ICT\)](#)
- [Career Center](#)
- [Counseling Center](#)
- [Office of Accessibility](#)
- [Student Health Services](#)
- [Tutoring & Writing Centers](#)
- [General Student Services](#) (Admissions, New Student Orientation, Bursar, Financial Aid, Information Technology Services)

Academic Advising

www.uakron.edu/advising

Inter-college Transfer (ICT)

www.uakron.edu/advising/how-do-i/ict

Career Center

www.uakron.edu/career

Phone – 330-972-7747

Email – career@uakron.edu

The Career Advantage Network connects students and alumni to employers at every stage of the career development process by encouraging, building and matching the unique personal and professional strengths of each individual to the needs of businesses. It supports career success by promoting a greater awareness of the world of work and the need to view career development as a life-long process. The Career Center staff is comprised of higher education and industry professionals who have a desire to assist students and alumni with their career aspirations and relevant learning experiences with the end goal of permanent placement opportunities. Services are free to all students and alumni.

Counseling Center

www.uakron.edu/counseling

Phone – 330-972-7082

The Counseling Center provides psychological counseling, career planning, educational counseling, testing, outreach and consulting services to the University community. The Center is staffed by a culturally diverse group of psychologists and psychology trainees. Counseling services are free and confidential to enrolled students. There is a fee for testing services.

Office of Accessibility

www.uakron.edu/access

Phone – 330-972-7928

TDD: 330-972-5764

E-mail: access@uakron.edu

The goal of the Office of Accessibility is to provide reasonable accommodations and a supportive, well-resourced environment to students with disabilities in order to promote student success in the university environment. The mission of the Office of Accessibility is to provide students with full access to and the opportunity for full participation in the academic environment. We are advocates of social justice for students with disabilities and work to end oppression by examining social, cultural and institutional barriers to inclusion of all students. We embrace the diversity of our student body, and celebrate a culturally sensitive and accessible campus through outreach, partnership, and advocacy with all university departments.

Student Health Services

www.uakron.edu/healthservices

Phone – 330-972-7808

Student Health Services, located in Suite 260 of the Student Recreation and Wellness Center, assists students in achieving their educational and personal goals by addressing their health care concerns while they are enrolled at The University of Akron.

Tutoring & Writing Centers

www.uakron.edu/tutoring

The University has two tutoring centers on campus that provide free assistance to currently enrolled students. The centers are located in Bierce Library and the Polsky Building.

Bierce Library:

- Bierce Writing Commons: For students seeking assistance with a paper assignment for any of their courses, including help with citation styles, visit Bierce Writing Lab
- Bierce Math Lab: Bierce Math Lab offers support for students having difficulty in entry-level math classes. Drop-in hours are available every weekday
- Tutorial Services: Peer tutors are available to students in a wide variety of General Education courses, with emphasis on classes in math and the sciences
- Learning Assistants Program: Specific sections of many courses include a trained Learning Assistant, who holds regular study sessions for students. The Learning Assistant Program provides assistance in the classroom throughout the semester, with professors and learning assistants working as a team encourage student success.

Polsky:

- Tutorial Services are located on the third floor of the Polsky Building, near Summit College Advising

- **Polsky Math Lab:** The [Polsky Math Lab](#) provides one-on-one assistance to students having difficulty in basic math courses, Summit College math courses and entry level math courses
- **Polsky Writing Lab:** The [Polsky Writing Lab](#) provides one-on-one assistance with all phases of the writing process, including subject development and organization, grammar and citation. Help is available for writing assignments from any course.
- **Polsky Study Skills Lab:** The [Polsky Study Skills Lab](#) helps students develop stronger study skills, including reading comprehension, test preparation, note taking, time management and vocabulary development
- Appointments for tutoring sessions are recommended and can be made by calling 330-972-7046. A limited number of walk-in sessions are available on a first-come, first-served basis.

General Student Services

Admissions

www.uakron.edu/admissions

Phone – 800-655-4884

Email – admissions@uakron.edu

New Student Orientation

www.uakron.edu/nso

Phone – 330-972-2622

Email – orientation@uakron.edu

Bursar

www.uakron.edu/student-accounts

Phone – 330-972-5100

Email – cashier@uakron.edu

Office of Financial Aid

www.uakron.edu/finaid

Phone – 800-621-3847

Email – finaid@uakron.edu

Information Technology Services

<http://www.uakron.edu/it/>

Phone – 330-972-6888

Additional Academic Programs and Services

- [Office of International Programs](#)
- [Education Abroad](#)
- [Learning & Living-Learning Communities](#)
- [Academic Achievement Programs](#)
- [Officer Training Programs \(ROTC\)](#)
- [Office of Multicultural Development](#)
- [Adult Focus](#)
- [Workforce Development and Continuing Education](#)
- [Additional Locations](#)
- [University Partnership Program](#)

Office of International Programs

www.uakron.edu/oip/

Phone – 330-972-6349

Email – international@uakron.edu

As a supporting unit to The University of Akron, the staff in the Office of International Programs undertakes the following:

- To provide admission services to all prospective undergraduate international students as well as financial verification and immigration documents for undergraduate and graduate international students
- To aid in the transition/integration of international students, scholars, and scientists through the provision of services, such as providing orientation programs, and evaluating international undergraduate academic credentials
- To provide information and advising services for The University of Akron students who wish to study, work, or travel abroad through the Education Abroad Program
- To provide immigration counseling services for international students, scholars, and faculty members
- To develop and support campus and community resources and activities designed to promote international understanding and appreciation of cultural diversity both on and off campus
- To assist faculty and/or departments who have an interest in establishing exchange agreements abroad
- To facilitate contacts between The University of Akron faculty members and departments with their foreign university contacts to assure that meaningful, mutually beneficial, reciprocal agreements are maintained

Education Abroad

<http://www.uakron.edu/oip/studyabroad/>

In today's world, global and intercultural awareness and the ability to relate to and work with those from other cultures and backgrounds are critical skills for graduates entering the workforce, regardless of intended profession. In a recent (2013) survey, 88% of polled hiring managers in the United States stated that intercultural experience is important for prospective hires to have. Education abroad is an excellent opportunity to develop those skills, as well as enhance one's academic background and grow personally. Through the Education Abroad section of the Office of International Programs, The University of Akron maintains exchange relationships and affiliations with institutions in more than 10 countries, including France, Germany, Japan, the Netherlands, China, Peru, South Korea and the United Kingdom. UA also maintains

affiliation agreements with several outside organizations offering education abroad opportunities, and many UA academic units sponsor short-term program options. As a result, UA students have the opportunity to study virtually anywhere in the world and for as short as a few weeks in the summer to a full academic year. For additional information, students may schedule an appointment with an Education Abroad advisor, attend an Open Chat session or attend a special event, such as Study Abroad 101, an Education Abroad Forum (once per semester) or the annual Education Abroad Fair (October).

Learning Communities/Living-Learning Communities

<http://www.uakron.edu/admissions/undergraduate/learning-communities/>

<http://www.uakron.edu/reslife/llc/index.dot>

A Learning Community is a group of students who take two to four classes together. Faculty members integrate topics and assignments across the courses so that what is being learned in one course reinforces and complements what is being learned in the other courses. Many courses in Learning Communities apply toward baccalaureate and associate degree requirements; some courses fulfill General Education requirements. Students in any major are welcome to participate in a Learning Community.

Living-Learning Communities (LLC) are established to provide distinctive settings where student academic success is supported through residential experiences.

Living-Learning Communities bring academics into the residence halls through mentorship by upperclass leaders, faculty and staff support, specialized programs and linkage between coursework. From Outdoor Adventure to ROTC; Business to Pre-Med, there is an LLC available to hundreds of students each year.

Academic Achievement Programs

<http://www.uakron.edu/aap/>

Phone – 330-972-6804

Academic Achievement Programs is dedicated to the mission of preparing students for personal success. It provides various academic, social, and cultural experiences for Akron-area students. Through five distinct programs, it expands and enhances academic instruction and adds value to the development of students through intensive summer components as well as academic year activities. These experiences are intended to empower students to make good decisions at home, in school, and in personal relationships, which will improve their self-worth, impact high school graduation rates, and facilitate the successful admission to and graduation from post-secondary educational institutions.

Officer Training Programs (ROTC)

http://www.uakron.edu/academics_majors/undergraduate_programs/rotc.dot

The University of Akron supports and promotes a robust officer training program — Army Reserve Officer Training Corps. ROTC produces leaders for the Army while building better citizens for America. ROTC is a military educational program designed to give men and women the opportunity to become officers while earning a college degree. ROTC offers scholarships, leadership training, and many other experiences simply not available to your average college student. ROTC classes and leadership training will help you sharpen your analytical skills. You'll learn to evaluate changing conditions and make appropriate decisions. Being in

ROTC requires you to take an added class and lab in addition to your other college courses. Typically, ROTC class credits can be applied as general elective credits toward your degree, and if you complete all four years of ROTC courses, you can earn a minor in the respective discipline.

Office of Multicultural Development

<http://www.uakron.edu/omd/>

The mission of the Office of Multicultural Development at The University of Akron is to prepare students to live and excel in a global society. As an advocate for equity and social justice, they ensure that students of diverse ethnic, social and cultural backgrounds achieve their fullest potential in an affirming environment which supports access, retention, and successful completion of goals. This mission is characterized by extensive student-focused collaboration with all segments of the campus community.

Adult Focus

<http://www.uakron.edu/uaaf/>

Adult Focus is an academic support service designed to assist adults and military veterans as they transition in their role as students to The University of Akron. It offers academic support, transitional coursework, advocacy, and scholarship referral and assistance throughout their academic career. Any student, regardless of age, whose primary life roles and responsibilities exist independent of the University and take precedence over the role of student in times of crisis or stress is considered to be an adult student.

Workforce Development and Continuing Education

<http://www.uakron.edu/ce/>

Workforce Development and Continuing Education offers professional certification and noncredit courses to businesses, organizations and individuals. Classes are scheduled weekdays, evenings and weekends. Many courses are approved by professional, national and state organizations for certificate and license re-certification.

More than 300 classroom and online courses are available each semester.

Workforce Development instructors customize and conduct employee training onsite for companies and organizations.

Additional Locations

<http://www.uakron.edu/provost/about/additional-locations.dot>

The University operates five educational centers in our surrounding communities.

University Partnership Program - Lorain County Community College (LCCC)

<http://www.lorainccc.edu/UP>

The University Partnership Program brings colleges and universities, including The University of Akron, to the LCCC campus to offer the coursework and programs that students need for bachelor's and master's degrees. Degrees offered parallel those that LCCC offers, enabling students to move into higher level degrees without leaving LCCC. More information is available by calling the Center at 800-995-5222 ext. 4949.

Fees and Expenses

Fees subject to change without notice.

Student Expenses

Following are comprehensively outlined fees for students at the University who are studying for credit and noncredit in all areas of instruction. Included also are the additional expenses required for special academic services available to students and other miscellaneous fees, such as application fees. It is the responsibility of the student to know the correct amount of all fees, including the non-Ohio resident surcharge.

In any question concerning fees, surcharges or residence, it is the responsibility of the student, parents or court-appointed guardian to furnish such proof as may be required by The University of Akron. A student who is in doubt about residency status should consult with the University registrar.

It is the responsibility of the registrar to assess fees and surcharges at the time of registration; information given by the student at that time is used in the assessment. Each registration is later audited by the University auditor, and appropriate additional charges or refunds will be made.

All fees and surcharges are due at the time of registration or on the specified fee payment deadline. The status of the student as of the opening day of the semester or session will determine the final, correct amount of fees and surcharges.

An Installment Payment Plan for tuition and fees is available to all students.

Tuition and Fees

Tuition and fee information for Undergraduate and associate degree programs is available on the [Office of Admissions website](#).

Admission Application Fees (Nonrefundable)

Undergraduate	\$40
Entering postbaccalaureate or graduate	\$40
Transient students (first enrollment only)	\$40
International Students (non-refundable)	\$60
Graduate Foreign Language Reading Proficiency Exam	\$50

Orientation Program Fees

New Student Orientation Program: University Commitment Fee <i>(Confirms new student intent to attend orientation and enroll in classes for next academic term. Placement tests taken on UA campuses are included in this fee.)</i>	\$100 (\$125 beginning Spring '14)
International Student Orientation	\$100
Placement Test Fees: Individual retesting and external users	\$25/test

Registration and Other Related Fees

Administrative Fees Assessed each term (all students except high school students taking University courses; transient, unclassified and special students; and undergraduate students who have completed 96 credits or more)	\$12/term
Late Payment Fees (charged to students who have not paid for tuition and mandatory fees by the invoice due date)	\$50
Transcripts	\$10 each
Co-op Course Fee	\$55
Alternative Credit Fees	
Bypassed Credit, per credit	\$5
CLEP, per test	\$80 (plus ETS fee paid to ETS)
Credit by Examination (undergraduate and postbaccalaureate) per credit	\$30
TestPrep Tutorial	\$100 per course

Facility Fee

Student Facility Fee	\$18.55/credit hour up to a maximum of 12 credit hours
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General Service Fee

Akron Campus & Summit College pursuing a bachelor's degree	\$35/credit hour up to a maximum of 12 credit hours
Akron Campus pursuing an associate's degree in Summit College	\$27.60/credit hour up to a maximum of 12 credit hours

Registration and Other Related Fees

Medina County University/Center Wayne College	\$7.34/credit hour up to a maximum of 12 credit hours
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Technology Fee

Academic Level: 0-95.5 Credits 96 Credits or More	\$13.20/credit hour Exempt
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Audit and Non-Credit (Developmental) Courses

The cost is the same whether a course is taken for credit non-credit (developmental) or audit.

Miscellaneous Fees

Audiology and Speech Center Fees

[Click here to view Audiology and Speech Center fees](#)

Career Advantage Services Fees

All undergraduate students except students with 96 credits or more	\$3/credit hour
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Career Services

Registration Fee for alumni and reciprocity (covers 12-month cost of employer referrals)	\$45
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Center for Child Development (Child care facility)

[Click here to view Center for Child Development \(Child care facility\) fees](#)

College of Education

Tk20 Portfolio	\$100
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Counseling, Testing and Career Center

Cognitive Functioning and Academic Achievement Tests	\$55
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Learning Disability Battery	\$115
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ACT Residual Test	\$45
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ACT Residual Test Standby (\$20 plus \$40 ACT fee)	\$65
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College of Education

College Level Examination Program (CLEP)	\$25 (plus ETS fee paid to ETS)
Educational Testing Services Fee	(Currently \$80; subject to change throughout the year. Fee is paid directly to ETS.)
Correspondence Testing	\$20/hr
Miller Analogies Test	\$90
Professional Consultation Fee per hour	\$120
Individual Administration of ACT Residual Test	\$155
Psychological and Career Tests	\$10
Psychological Assessment (not part of Counseling - an independent test)	\$50
Attention Deficit Disorder (ADD/ADSD) Assessment	\$160
CDs (For relaxation, stress management, etc.)	\$1

[Fees continued >>](#)

Financial Aid

Financial aid programs were developed by federal and state governments, as well as by institutions of postsecondary learning to assist students from families with limited resources in meeting their educational expenses. The primary purpose of financial aid is to ensure that no person is denied the opportunity of attending college because of financial need.

Generally, financial aid is provided in four forms: scholarships, grants, loans and work. To apply for all types of state and federal aid and programs, complete the Free Application for Federal Student Aid (FAFSA). You will be required to complete a separate application for University and non-university scholarships.

Mission Statement

The Mission of The University of Akron's Office of Student Financial Aid is to help students achieve their educational potential. This office accomplishes this by:

- Adhering to state and federal regulations as well as University policies regarding the awarding of aid funds
- Being committed to removing financial barriers for those who wish to pursue postsecondary learning
- Making every effort to assist students with financial need
- Having an awareness of the issues affecting our students and advocating for our students' interests at the institutional, state and federal levels
- Educating our students and their families by providing quality consumer information
- Respecting the dignity and diversity of each one of our students by providing services that do not discriminate on the basis of race, gender, ethnicity, sexual orientation, religion, disability, age or economic status
- Ensuring the confidentiality of our students' information
- Assuring the uniform application of all needs analysis formulas consistently across The University of Akron's full population of financial aid applicants
- Committing to the highest level of ethical behavior by avoiding conflict of interest or the appearance of such a conflict

Maintaining the highest level of professionalism reflects the Student Financial Aid office's commitment to the goals and mission of The University of Akron.

The [Financial Aid website](#) will serve as your guide. It has all the information needed to get started with financial aid applications and learn about the process of using aid to pay for college.

About General Education

The General Education Program of The University of Akron is the core of courses which provides the skills and knowledge considered essential for all graduates of the University. The General Education Program is designed to ensure, insofar as possible, that our graduates will possess:

- The capacity for critical, independent thought
- A personal sense of values, tempered by tolerance and a regard for the rights of others
- The ability to use language effectively as a medium of both thought and expression
- The analytical skills necessary to make sound qualitative and quantitative judgements
- The ability to describe and explain differences in civilizations and cultures
- An understanding of the conditions that affect them as individuals and as members of society
- The capacity to evaluate intellectual and artistic achievements
- A knowledge of science, technology and mathematics and their effects on human activities
- A knowledge of positive mental and physical health practices

Recommended Core Curriculum

Students pursuing a baccalaureate degree must complete the General Education Program, which consists of 41 credits distributed among eight categories. Students are advised to select General Education courses in conjunction with courses needed for their major during their first few years of study. Students must complete their English, Mathematics, and Speech requirements during the first 48 credit hours. All students are responsible for meeting prerequisites for the necessary courses listed in the General Education Program. NOTE: Specific departmental requirements may vary, so students are encouraged to consult an advisor for specific information about selecting appropriate General Education courses from the recommended core curriculum.

[Print the recommended core curriculum](#) (Note: [Adobe Reader](#) is required to access pdf files)

English Composition: 6 credits - 2 courses

		Credits
Take one of the following three courses:		
2020:121	English	3
3300:111	English Composition I	3
3300:113	African-American Language and Culture I: College Composition	3

Take one of the following three courses:

English Composition: 6 credits - 2 courses

2020:222	Technical Report Writing	3
3300:112	English Composition II	3
3300:114	African-American Language and Culture II: College Composition	3

Mathematics - 3 credits

Students enrolling in a higher-level math course may use this course to meet their General Education requirement. **Credits**

2030:152,153	Technical Mathematics II, III*	4
*Must complete BOTH courses. Only 3 credits apply toward fulfilling General Education requirement.		
2030:161	Math for Modern Technology	4
3450:135	Excursions in Mathematics	3
3450:145	College Algebra	4
3450:210	Calculus with Business Applications	3
3450:240	Mathematical Foundations for Early Childhood Educations	3
3470:250	Statistics for Everyday Life	4
3470:260	Basic Statistics	3
3470:261	Introduction to Statistics I	2
3470:262	Introduction to Statistics II	2

Natural Science: 8 credit minimum - At least two courses, each from a different set, one of which must be a lab

Students in higher-level science courses with a lab may use those courses to meet their General Education requirements. Select one course each from a minimum of two different sets: **Credits**

Anthropology

3230:151	Human Evolution/Lab	4
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Biology

2780:106	Anatomy and Physiology for Allied Health I	3
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Natural Science: 8 credit minimum - At least two courses, each from a different set, one of which must be a lab

2780:107	Anatomy and Physiology for Allied Health II	3
3100:100	Introduction to Botany/Lab	4
3100:101	Introduction to Zoology/Lab	4
3100:103	Natural Science Biology/Lab	4
3100:108	Introduction to Biological Aging (Wayne College only)	3

Chemistry

2820:105	Basic Chemistry/Lab	3
2820:111	Introduction to Chemistry	3
2820:112	Introductory and Analytical Chemistry	3
3150:100	Chemistry and Society	3
3150:101	Chemistry for Everyone/Lab	4

Environmental Studies

3370:211	Introduction to Environmental Science	3
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Geology

3370:100	Earth Science	3
3370:101	Introduction to Physical Geology	4
3370:102	Introductory Historical Geology/Lab	4
3370:103	Natural Science Geology	3
3370:121-141	Concepts in Geology	1
3370:171	Introduction to Oceans	3
3370:200	Environmental Geology	3
3370:201	Exercises in Environmental Geology/Lab1	1
3370:203	Exercises in Environmental Geology II/Lab	1

Physics

2820:161	Technical Physics: Mechanics I	2
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Natural Science: 8 credit minimum - At least two courses, each from a different set, one of which must be a lab

2820:162	Technical Physics: Mechanics II	2
2820:163	Technical Physics: Electricity and Magnetism	2
2820:164	Technical Physics: Heat and Light	2
3650:130	Descriptive Astronomy/Lab	4
3650:133	Music, Sound and Physics/Lab	4
3650:137	Light/Lab	4

Oral Communication: 3 credits

		Credits
2540:263	Professional Communications and Presentations	3
7600:105	Introduction to Public Speaking	3
7600:106	Effective Oral Communication	3

Social Sciences: 6 credits

One course from two different sets for a minimum of 6 credits	Credits
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Set 1 - Economics

2040:247	Survey of Basic Economics	3
3250:100	Introduction to Economics	3
3250:200	Principles of Microeconomics	3
3250:244	Introduction to Economic Analysis	3

Set 2 - Geography

3350:100	Introduction to Geography	3
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Set 3 - Government/Politics

2040:242	American Urban Society	3
3700:100	Government and Politics in the United States	3
3700:150	World Politics and Government	3

Social Sciences: 6 credits

Set 4 - Psychology

2040:240	Human Relations	3
3750:100	Introduction to Psychology	3

Set 5 - Sociology/Anthropology

2040:244/344	Death and Dying	2
3230:150	Human Cultures	3
3850:100	Introduction to Sociology	4
5100:150	Democracy in Education	3

Set 6 - United States History

3400:250	U.S. History to 1877	4
3400:251	U.S. History since 1877	4

Set 7 - Science/Technology/Society

2040:241	Technology of Human Values	2
2040:243	Contemporary Global Issues	3
3240:100	Introduction to Archaeology	3
3600:125	Theory and Evidence	3

Humanities: 10 credits - 3 courses

All students are required to complete: **Credits**

3400:210	Humanities in the Western Tradition I	4
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or

3400:221	History in the World Since 1300	4
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Students must select one course from two different sets below for a minimum of six additional credits:

Set 1 - Fine Arts

7100:210	Visual Arts Awareness	3
7500:201	Exploring Music: Bach to Rock	3

Humanities: 10 credits - 3 courses

7800:301	Introduction to Theatre through Film	3
7900:200	Viewing Dance	3

Set 2 - Philosophy/Classics

3200:220	Introduction to the Ancient World	3
3200:230	Sports and Society in Ancient Greece and Rome	3
3200:289	Mythology of Ancient Greece	3
3600:101	Introduction to Philosophy	3
3600:120	Introduction to Ethics	3
3600:170	Introduction to Logic	3

Set 3 - Literature

3300:250	Classic and Contemporary Literature	3
3300:252	Shakespeare and His World	3
3300:281	Fiction Appreciation	3

Other literature in English translation:

3200:361	Literature of Greece	3
3580:350	Literature of Spanish-America in Translation	3

Set 4 - History/General Humanities

3400:210	Humanities in the Western Tradition I	4
	or	
3400:221	History of the World Since 1300	4

Area Studies & Cultural Diversity: 4 credits - 2 courses

		Credits
2040:254	The Black Experience from 1619 to 1877	2
2040:256	Diversity in American Society	2
2040:257	The Black Experience 1877 to 1954	2

Area Studies & Cultural Diversity: 4 credits - 2 courses

2040:258	The Black Experience 1954 to Present	2
3001:200	Introduction to Women's Studies	3
3002:201	Introduction to Pan African Studies	3
3230:251	Human Diversity	3
3350:275	Geography of Cultural Diversity	2
3400:285	World Civilization: China	2
3400:286	World Civilization: Japan	2
3400:287	World Civilization: SE Asia	2
3400:288	World Civilization: India	2
3400:289	World Civilization: Middle East	2
3400:290	World Civilization: Africa	2
3400:291	World Civilization: Latin America	2
3501:210	Arabic Culture Through Film	2
3502:210	Chinese Culture Through Film	2
3560:210	Japanese Culture Through Film	2
7600:325	Intercultural Communication	3

Note: A student majoring in the College of Engineering is only required to take two credits from the Area Studies & Cultural Diversity area of General Education requirements.

Physical Education/Wellness: 1 credit

		Credits
2740:122	Emergency Responder I	1
5550:100	Introduction to Sports Studies	3
5540:120-183,190	Physical Education	.5-1
5550:150	Concepts of Health and Fitness	3
5550:194	Sports Officiating	2
5550:211	First Aid and Cardiopulmonary Resuscitation	2

Physical Education/Wellness: 1 credit

5550:212	First Aid & CPR -Prof. Rescuer	2
5570:101	Personal Health	2
7760:133	Nutrition Fundamentals	3
7510:126	Marching Band	1
7900:119/120	Modern Dance I/II	2
7900:124/125	Ballet I/II	2
7900:130/230	Jazz Dance I/II	2
7900:144	Tap Dance I/II	2

Note: Dance Technique courses do not meet this requirement for dance majors.

7900:200 does not meet this requirement for dance majors or dance minors.

About General Education in Summit College*

All terminal associate degree programs currently within Summit College will contain 18 hours of general education course work (3 hours of which must be English) to be selected from the areas and courses designated in the table below. This course work must be approved by the General Education Advisory Committee and, therefore be accepted as part of the state-wide Ohio Transfer Module. Students are encouraged to select approved course work from Summit College.

Core Curriculum for Summit College

Note: Course work with HIGHER numbers are accepted as General Education courses (e.g. **Technical Math IV** meets General Education requirements even though only **Technical Math II & III** are listed).

English Area: 3 credits - 1 course

		Credits
2020:121	English	3

Oral Communication: 3 credits - 1 course

		Credits
2540:263	Professional Communications and Presentations	3

Mathematics: 3 credits - 1 to 2 courses

		Credits
2030:152	Technical Math II	2
2030:153	Technical Math III	2
2030:161	Math for Modern Technology	4

Social Science/Interpersonal Skills - 6 credits

		Credits
2040:240	Human Relations	3
	and	

3 credits - 1 to 2 courses:

Social Science/Interpersonal Skills - 6 credits

2040:242	American Urban Society	3
2040:247	Survey of Basic Economics	3
2040:243	Contemporary Global Issues	3
2040:241	Technology and Human Values	2

Natural Science: 3 credits - 1 to 2 courses

		Credits
2820:105	Basic Chemistry	3
2820:111	Introductory Chemistry	3
2820:112	Introductory and Analytical Chemistry	3
2780:106	Anatomy & Physiology for Allied Health I	3
2780:107	Anatomy & Physiology for Allied Health II	3
2820:110	Physical Science for Technicians	3
2820:161	Technical Physics: Mechanics I	2
2820:162	Technical Physics: Mechanics II	2
2820:163	Technical Physics: Electricity & Magnetism	2
2820:164	Technical Physics: Heat & Light	2

Area Studies/Cultural Diversity: 2 credits

		Credits
2040:254	The Black Experience from 1619 to 1877	2
2040:256	Diversity in American Society	2
2040:257	The Black Experience from 1877 to 1954	2
2040:258	The Black Experience 1954 to Present	2

*Approved by Summit College Faculty on 11/14/2006

General Education/Transfer Program

Wayne College offers the first two years of general baccalaureate education for transfer to the Akron campus of The University of Akron or to any other college or university. General courses in communications, the humanities, cultural diversity, social sciences, mathematics and natural sciences are required, along with basic courses in the student's chosen field.

The Wayne College Academic Catalog outlines the first two years of study for various bachelor's degree programs of The University of Akron. Some courses not currently available at Wayne College may also need to be completed in the first two years of selected University programs to assure proper course sequencing and timely completion of degree requirements. These programs are marked with an asterisk (*). Please see a Wayne College advisor for further details.

Finally, completion of the courses listed may also qualify a student to receive either the Associate of Arts or the Associate of Science degree. Please consult a Wayne College advisor for further details.

Wayne College Academic Catalog 2013-2014

- General Education/Transfer Program

University Research Council

The University Research Council is responsible for the supervision and coordination of sponsored and contractual research activities carried out at The University of Akron through such departments, colleges, research institutes and centers as established to conduct research. The Council is chaired by the Vice President for Research and Dean of the Graduate School. Its members are recommended to the Vice President for Research and Dean of the Graduate School, in consultation with the Senior Vice President, Provost and COO. Membership includes the Director of the Office of Research Administration, General Counsel, Dean of the Buchtel College of Arts and Sciences, Dean of Engineering, Dean of Polymer Science and Polymer Engineering, Director of the Institute of Polymer Engineering and two faculty members recommended by the Executive Committee of the Faculty Senate.

Research Centers and Institutes

- [Akron Global Polymer Academy](#)
- [Applied Polymer Research Center](#)
- [Center for Advanced Vehicles and Energy Systems](#)
- [Center for Conflict Management](#)
- [Center for Emergency Management and Homeland Security Policy Research](#)
- [Center for Environmental Studies](#)
- [Center for Family Studies](#)
- [Center for Information Technologies and eBusiness](#)
- [Center for Literacy](#)
- [Center for Organizational Development](#)
- [Center for Organizational Research](#)
- [Center for Silver Therapeutics Research](#)
- [Center for Statistical Consulting](#)
- [Center for the History of Psychology](#)
- [Center for Urban and Higher Education](#)
- [English Language Institute](#)
- [FirstEnergy Advanced Energy Research Center](#)
- [Fisher Institute for Professional Selling](#)
- [Gary L. and Karen S. Taylor Institute for Direct Marketing](#)
- [H. Kenneth Barker Center for Economic Education](#)
- [Institute for Biomedical Engineering Research](#)
- [Institute for Global Business](#)
- [Institute for Life-Span Development and Gerontology](#)
- [Institute for Teaching and Learning](#)
- [Institute of Bioscience and Social Research](#)
- [Institute of Polymer Science and Polymer Engineering](#)
- [Intellectual Property Law and Technology Center](#)
- [Microscale Physiochemical Engineering Center \(MPEC\)](#)

- Nursing Center for Community Health
- Nutrition Center
- Ray C. Bliss Institute of Applied Politics
- The University of Akron Archival Services
- Training Center for Fire and Hazardous Materials
- Training Center for Law Enforcement and Criminal Justice
- University of Akron Magnetic Resonance Center (UA/MRC)
- William and Rita Fitzgerald Institute for Entrepreneurial Studies
- Workforce Development and Continuing Education

Akron Global Polymer Academy

The Akron Global Polymer Academy at The University of Akron assists the College of Polymer Science and Polymer Engineering in creating and disseminating knowledge about polymer science, polymer engineering and Science, Technology, Engineering and Mathematics (STEM) education by supporting initiatives in P-16 education and other distributive education ventures. Providing consulting and training services to the polymer industry worldwide, the Akron Polymer Training Center is the Workforce Development division of the Akron Global Polymer Academy.

Website: [Akron Global Polymer Academy](#)

Applied Polymer Research Center

The Applied Polymer Research Center (APRC) is a contract services facility operated by The University of Akron's College of Polymer Science and Polymer Engineering. The Center has been serving the industrial community, especially rubber and plastics, for over 50 years.

The Center currently performs 300-400 projects a year, under complete confidentiality to the client. Projects are generally initiated and completed under a purchase order agreement.

With a full-time professional staff and a half-million dollar inventory of modern instrumentation, the Center is dedicated to performing sophisticated and timely contractual technical services for industrial and government clients. In addition to dedicated resources maintained by the Center, the laboratory has access to highly sophisticated instrumentation through the College of Polymer Science and Polymer Engineering, and will interface with a staff of over 30 highly specialized faculty to solve more complex polymer related problems.

Website: [Applied Polymer Research Center](#)

Center for Advanced Vehicles and Energy Systems

The Center for Advanced Vehicles and Energy Systems (CAVES), established in 2005, focuses on the research, development and dissemination of advanced automotive technology and alternative energy systems and their enabling technologies. The Center's efforts are geared toward product-oriented research, development and commercialization of efficient cost-effective solutions to alternative transportation systems, advanced energy sources and storage and their real-time control platforms. In addition to providing research services to industry, private and government agencies, CAVES also provides knowledge dissemination through symposia, lectures, seminars and project-oriented graduate and undergraduate design experiences.

The Electrical and Computer Engineering and Mechanical Engineering departments have faculty and graduate and undergraduate students currently involved in hybrid vehicle technology, energy systems and related areas. CAVES' activities are housed within a number of facilities, including the Power Electronics Laboratory, the Controls Research Laboratory, the Battery Research Facility, the Hybrid Electric Facility and the Pervasive Automation Laboratory, among others.

Website: [Center for Advanced Vehicles and Energy Systems](#)

Center for Conflict Management

The University of Akron has a long and proud history of the interdisciplinary study of conflict because understanding the nature of conflict is the first step toward reducing conflict and violence at home, in our communities, workplaces and schools. The Center for Conflict Management, jointly administered by the departments of Political Science and Sociology, seeks to build on that tradition by combining courses in several departments to enhance the capacity of students to effectively work toward reducing the harms associated with conflict and violence—from interpersonal to international.

For more information, contact the office, 202 Olin Hall, 330-972-5855, wtlyons@uakron.edu or www.uakron.edu/centers/conflict.

Website: [Center for Conflict Management](#)

Center for Emergency Management and Homeland Security Policy Research

The Center for the Emergency Management and Homeland Security Policy Research is dedicated to create a supportive environment for research, academics and outreach in emergency management and homeland security. It supports and encourages multidisciplinary endeavors in these fields that make a positive contribution to society. The Center is a collaborative partnership between The University of Akron and The Ohio Emergency Management Agency.

The Center focuses on policy and its interaction with the function of emergency management. This policy analysis and research relates to contemporary emergency management questions and issues on both state and national levels. Project areas include terrorism preparedness, business and industry continuity, disaster response and recovery assessment, as well as management practices relating to crises and disasters.

Website: [Center for Emergency Management and Homeland Security Policy Research](#)

Center for Environmental Studies

The University of Akron's Center for Environmental Studies, located in Crouse Hall 215, was founded in 1970 to encourage multidisciplinary approaches to address environmental issues and resolve environmental problems.

The Center is a cooperative effort of several departments including biology, chemistry, chemical engineering, civil engineering, economics, education, geography, geology & environmental science, history, library, political science, and sociology. There are about ninety affiliated faculty.

The Center provides opportunities for scientists, educators, students and special interest groups to work together on issues of environmental concern.

In recent years the Center has directed: an undergraduate and graduate certificate program of study; fielded responses to local inquiries regarding environmental problems; and sponsored workshops and seminars on environmental issues

Website: [Center for Environmental Studies](#)

Center for Family Studies

The Center for Family Studies, established in 1979, was designed to stimulate and encourage the interdisciplinary study of the family. It serves both the University and the community by fostering collaboration between faculty, students, practitioners and community leaders on curriculum development, educational conferences and seminars, research and training and public policy relevant to important family issues. The Center is a member of the Sloan (Foundation) Work and Family Research Network and can supply current and credible information on work-family issues to its constituencies.

The Center is represented by faculty from five colleges and over 15 disciplines. It also includes leaders from various community systems, such as schools, hospitals, courts, churches, mental health, social and health care agencies. In addition, the Center has a fellows program in which outstanding faculty and community leaders are named as fellows, adjunct fellows or senior fellows.

The Center offers certificates in the following specialty areas: General Mediation, Divorce Mediation and Home-Based Intervention.

Any student, faculty member or community person interested in family issues is invited to call the director to learn how they can participate or learn more about the Center's activities.

Website: [Center for Family Studies](#)

Center for Information Technologies and eBusiness

The Center for Information Technologies and eBusiness (CITe) is a multi-disciplinary center within the College of Business Administration. CITe provides an important resource connecting IT executives with IS faculty and students that will provide educational research and networking opportunities. CITe was created in 2000 with the mission to teach students and develop faculty in the principles and practices of the related disciplines of Information Technology and electronic business. CITe is made up of an advisory board of Information Technology leaders from the Northeast Ohio region and the College of Business Administration faculty, staff and students. The objectives of CITe are to advance information technology (IT), information systems (IS) and eBusiness (EB) programs, research, best practices and related activities at The University of Akron. Visit the CITe website at www.uakron.edu/cite/ for more information.

Website: [Center for Information Technologies and eBusiness](http://www.uakron.edu/cite/)

Center for Literacy

The Center for Literacy furthers the mission of both The University of Akron and its College of Education through a variety of programs that support development of expertise and dissemination of knowledge about language learning. The Center brings preservice, inservice and university teachers together with children and families in the greater Akron area through a wide range of literacy related projects. Additional information can be found at www.uakron.edu/education/community-engagement/literacy.

Website: [Center for Literacy](#)

Center for Organizational Development

The Center for Organizational Development in the College of Business Administration was established to meet the training and development needs of the business community. The Center offers management development seminars, programs, conferences and consulting services designed to enhance the skills of individuals and improve company productivity in a rapidly changing world. The Center specializes in offering dedicated leadership training and management development programs that are custom designed to meet the specific needs of companies. For information, call 330-972-7654.

Website: [Center for Organizational Development](#)

Center for Organizational Research

The Center for Organizational Research (COR) is a business research and consulting center managed by the Industrial/Organizational Psychology program at The University of Akron. This program consistently ranks as one of the top ten programs in the nation (according to U.S. News & World Report).

The COR's mission is to provide top quality consultation and research-based interventions to the business community. The COR also serves the purpose of providing professional training and research opportunities for graduate and undergraduate students. The COR is able to provide a tailored approach to the client's needs because of its smaller client base and research orientation. COR offers larger organizations access to solutions based on cutting-edge research from a nationally regarded academic program.

Website: [Center for Organizational Research](#)

Center for Silver Therapeutics Research

The Center for Silver Therapeutics Research is a research consortium composed of UA faculty researchers from many different departments and colleges. The center seeks to advance the use of silver ion-containing compounds for the treatment of a wide range of infections and in the antineoplastic area.

Website: [Center for Silver Therapeutics Research](#)

Center for Statistical Consulting

The mission of the Center for Statistical Consulting in the Department of Statistics is to provide the University community and the community at large with professional assistance in the design and analysis of statistical problems for theses, dissertations and research. The office is located in the Buchtel College of Arts & Sciences Building, Room 118B. When requesting statistical consulting, refer to the Center's website at www.uakron.edu/statistics/about-us/, fill out the Request for Statistical Consulting form and email it to the department on the available link. The department will contact you for an appointment.

Website: [Center for Statistical Consulting](#)

Center for the History of Psychology

The Center for the History of Psychology (CHP) cares for, provides access to and interprets the historical record of psychology and related human sciences. The Center includes a museum of psychology that highlights artifacts, documents, films and photographs from the history of the human sciences. It is also the home to the Archives of the History of American Psychology.

The Archives of the History of American Psychology (AHAP) was founded at The University of Akron in 1965. It has grown to become the largest collection of its kind in the world, and is now comprised of a vast collection of artifacts, media and documents, including the personal papers of many important psychologists. The Center reflects the interdisciplinary nature of the Archives, which includes specialists in both psychology and library science.

The CHP opens its doors to scholars, students of all ages and visitors from across the globe that come to see and work with these one-of-a-kind collections.

Website: [Center for the History of Psychology](#)

Center for Urban and Higher Education

The Center for Urban and Higher Education is an education and research unit within the College of Education with the broad purpose of improving student learning pre-K through higher education. It serves both the University and the community by fostering collaborations among faculty, administrators, students, practitioners and community leaders in educational conferences and seminars, research, evaluation and training. The Center designs professional development and school improvement workshops to address the needs of public and private school districts and post-secondary institutions. The Center is located in the College of Education Building, Zook Hall. For more information and when requesting services, please visit the Center's interactive website at www.cuhe.uakron.edu or via email at cuhe1@uakron.edu or call 330-972-8183.

Website: [Center for Urban and Higher Education](http://www.cuhe.uakron.edu)

English Language Institute

Established in 1979, the English Language Institute (ELI), part of the Buchtel College of Arts & Sciences, offers a program in English as a Second Language (ESL) instruction. The English for Academic Purposes Program provides non-credit ESL courses to international students and nonnative residents who plan to pursue an undergraduate or graduate degree at The University of Akron or another U.S. university. The intensive, 20-hours per week program also serves individuals who wish to improve their English to meet their own professional and/or personal goals.

ELI courses at four levels of English proficiency target language and academic skills needed for successful study at a U.S. university: reading efficiently, writing clearly, taking lecture notes and communicating effectively in English. Students also study grammar and vocabulary and prepare for language proficiency tests to meet the University's English requirement. (The TOEFL, Test of English as a Foreign Language, or the ELI-ASSET, Academic Study Skills and English Test, along with ELI course grades may be used to successfully complete the ELI and begin academic coursework.) In addition to its instructional program, the ELI administers The University of Akron Developed English Proficiency Test (the U-ADEPT), which assesses the speaking ability of prospective international teaching assistants at UA and determines their readiness to provide classroom-related services in their graduate departments.

The ELI serves as a resource on issues relating to language proficiency for University faculty, staff and students as well as for members of the local community. For more information, visit the ELI website at www.uakron.edu/eli, email ua-eli@uakron.edu or call 330-972-7544.

Website: [English Language Institute](http://www.uakron.edu/eli)

FirstEnergy Advanced Energy Research Center

The College of Engineering and the Department of Chemical and Biomolecular Engineering serve as the home for The FirstEnergy Advanced Energy Research Center. The University of Akron has created this research center to develop technology to generate efficient electric power with minimal carbon dioxide emissions. Specifically, the center will research and create ways to capture carbon dioxide, which then would be used at fossil-fueled power plants, and to develop coal-based fuel cells for commercial use.

Website: [FirstEnergy Advanced Energy Research Center](#)

Fisher Institute for Professional Selling

Established through a gift from Ronald and Diane Fisher in 1992, the Ronald R. and Diane C. Fisher Institute for Professional Selling has enabled The University of Akron to establish one of only 13 certified, professional sales programs in the world. It is currently number three in the United States and Canada.

The mission of the Fisher Institute of Professional Selling is: to enhance the image of the sales profession and to promote professional selling and sales management as rewarding lifelong careers; to provide world-class, high-quality excellence in sales education through sales major, minor and certificate programs; to forge strong partnerships with the business community by providing them with top talent and outstanding training and consulting to their sales executives and their business needs; and to conduct research that advances the field of sales.

The sales function generates the revenue that enables the rest of the corporation to operate. Jobs are abundant in the field of sales. Current placement is 100% (compared to 37% in other majors). Visit the website at www.uakron.edu/cba/fisher for more information.

Website: [Fisher Institute for Professional Selling](http://www.uakron.edu/cba/fisher)

Gary L. and Karen S. Taylor Institute for Direct Marketing

The Gary L. and Karen S. Taylor Institute for Direct Marketing is the future of direct interactive marketing. With dedicated faculty and staff and a state-of-the-art facility featuring laboratories in telecommunications, TV infomercials, direct response, eMarketing and marketing analytics, the Taylor Institute is able to provide students with leading-edge skills and practical experience.

For more information, call 330-972-7110 or visit www.uakron.edu/cba/taylor.

Website: [Gary L. and Karen S. Taylor Institute for Direct Marketing](http://www.uakron.edu/cba/taylor)

H. Kenneth Barker Center for Economic Education

This center exists to improve the economic literacy of individuals to help them function competently as citizens, producers and consumers. It conducts workshops, seminars and economic programs for teachers, students and interested groups. It provides consulting services in the area of economic education and acts as a clearinghouse for the gathering and dissemination of economic education materials and programs. It also fosters an understanding and appreciation of the American economic system.

Website: [H. Kenneth Barker Center for Economic Education](#)

Institute for Biomedical Engineering Research

This institute was established in 1979 to promote interdisciplinary studies in the rapidly growing areas of knowledge, which overlap the fields of biology and medicine, on the one hand, and engineering and the physical sciences, on the other. It conducts seminars, courses and degree programs in biomedical engineering in association with the College of Engineering and individual departments.

In addition to its research and educational functions, the institute provides a research service to local hospitals and industry, as well as to private and government agencies. The premise for this program is that the combined resources of the University, Northeastern Ohio Universities College of Medicine and affiliated organizations will often permit more cost-effective solutions than would be possible by an individual or group doing the research independently.

The work of the institute is carried out by faculty of the Department of Biomedical Engineering in association with "members" selected from the faculties of The University of Akron and Northeastern Ohio Universities College of Medicine, as well as from the ranks of area physicians, engineers and scientists. The institute and the department occupy the third floor of the Olson Research Center on the north edge of the campus.

Website: [Institute for Biomedical Engineering Research](#)

Institute for Global Business

The University of Akron received special funding from the State of Ohio to expand its offerings of undergraduate and graduate degree programs in international business. Thus, the College of Business Administration created the Institute for Global Business, which coordinates both credit and noncredit programs in international business. The institute also develops short courses and seminars designed to help improve the international competitiveness of business organizations. For more information, call 330-972-6230.

Website: [Institute for Global Business](#)

Institute for Life-Span Development and Gerontology

The Institute for Life-Span Development and Gerontology, founded in 1976, coordinates multidisciplinary credit certificate programs in gerontology at the undergraduate and graduate levels.

The Institute of Life-Span Development and Gerontology has grown into a campus-wide program involving more than 63 faculty in more than 20 different departments, representing six colleges. Students in the certificate programs carry out field placements at numerous community service settings. There are more than 40 courses at the undergraduate and graduate levels. Research, education, training and service support has been received from the U.S. Administration on Aging, National Institute on Aging, U.S. Department of Education, Office of Special Education and Rehabilitation Services, National Institute on Disability and Rehabilitation Research, AARP Andrus Foundation, Ohio Department of Aging and Area Agency on Aging 10B. The Institute also served as a major site for the Rehabilitation Research and Training Center Consortium on Aging and Development Disabilities involving seven universities in six states.

The Institute houses the Tri-County Senior Olympics.

Website: [Institute for Life-Span Development and Gerontology](#)

Institute for Teaching and Learning

Mission Statement: The Institute for Teaching and Learning at The University of Akron coordinates, promotes and supports efforts to improve the success of our students both inside and outside the classroom and to advance and disseminate scholarly investigations into the teaching and learning process as well as discipline-specific research activities involving students.

ITL's Responsibilities

- Assisting faculty with service learning and undergraduate research experiences
- Consulting with colleges, departments and individual faculty on teaching, learning, evaluation and assessment issues
- Development and providing targeted professional development activities, information-gathering and sharing
- Documenting, publicizing and celebrating teaching and learning innovation and excellence
- Providing information, advice and leadership on teaching and learning matters
- Providing leadership and support for research on the scholarship of teaching and learning, service learning, pedagogy and inclusive excellence

For more information, visit the ITL website at www.uakron.edu/itl or contact the Institute at 330-972-2574.

Website: [Institute for Teaching and Learning](#)

Institute of Bioscience and Social Research

The Institute of Bioscience and Social Research, housed in the Buchtel College of Arts and Sciences at The University of Akron, is dedicated to the "creation of knowledge and application of research that benefits humankind." The Institute (formerly known as the Institute of Health and Social Policy) was renamed in June 2011 as part of the initial phase of a redesign of its mission and focus.

Since its opening in 1999, the Institute's staff and researchers have brought in more than \$35 million in grants and contracts. In 2001, IHSP's internationally known researchers received the largest grant in The University of Akron's history to that point—a \$13.7 million dollar grant from The Robert Wood Johnson Foundation.

As the needs of the region as well as those of the University of Akron and its faculty have evolved over this time period, so has the Institute. During 2011-12 the Institute has undergone a number of changes, as reflected in its name change. In keeping with its focus on benefiting humankind, the Institute's commitment is twofold. First, we strive to support UA's expanding research base in the biosciences and social research by providing infrastructure upon which UA researchers can build. In addition, the Institute continues to provide seed funding to researchers to energize the expansion of funded research benefiting society. Second, we are committed to connecting cutting-edge researchers in the biosciences and social sciences with community partners in need of their expertise. The Institute takes pride in the invaluable staff and dedicated researchers who have contributed to its founding and growth, and encourage all those who seek to benefit humankind through the application of research to join us as we build the future of a new, even better, Institute.

Website: [Institute of Bioscience and Social Research](#)

Institute of Polymer Science and Polymer Engineering

The Institute of Polymer Science and Polymer Engineering provides research support and technical service for the graduate research programs in the Department of Polymer Science and the Department of Polymer Engineering. The technical support staff provide instruction and service for students and faculty in laboratories dedicated to electron microscopy (SEM, TEM, EDS, EDX), polymer characterization (SEC, DSC, TGA, light scattering, FTIR, UV-vis, X-ray, AFM, contact angle goniometer), polymer processing (mixing, extrusion, film formation, molding, filament winding, pultrusion-electrospinning), electronics and electrical repair, machining, glassblowing and a variety of analytical and processing equipment. The University of Akron NMR Center maintains a satellite nuclear magnetic resonance laboratory equipped with 500 MHz solid-state and solution spectrometers supervised by a professional staff. The Polymer Blending and Compounding Center for the Applied Polymer Research Center provide contract technical service for industry and government.

Website: [Institute of Polymer Science and Polymer Engineering](#)

Intellectual Property Law and Technology Center

The Intellectual Property Law and Technology Center in the School of Law is one of approximately 14 such centers in the nation. The center exposes the community to critical thinking in the intellectual property law field, coordinates and implements the Law School intellectual property law curriculum and hosts an annual Conference on Intellectual Property Law and Policy. The Center works with other schools within the University in the design and implementation of interdisciplinary courses relating to intellectual property law.

Commencing the fall of 2005, the Center implemented a new Master of Law in Intellectual Property Program.

Website: [Intellectual Property Law and Technology Center](#)

Microscale Physiochemical Engineering Center (MPEC)

The Microscale Physiochemical Engineering Center (MPEC) was established in 1996 by faculty with a common research interest in materials composed of very small particles. These small particles occur, for example, in heterogeneous catalysts, fluid/solid separations, paper-pulp processing, soil remediation, wastewater decontamination and solid transport.

The unique feature of MPEC is the ability to form multi-disciplinary teams of faculty and graduate students to solve specific industrial problems.

The Center hosts an annual conference, promotes networking, provides a forum for industrial-university cooperation and serves a consortium of industrial sponsors for fundamental and applied research in microscale physiochemical engineering.

Website: [Microscale Physiochemical Engineering Center \(MPEC\)](#)

Nursing Center for Community Health

The Center for Nursing is a part of The University of Akron's College of Nursing. It is an education and practice center for College of Nursing faculty and students as well as faculty and students from other health care disciplines on campus.

The Center for Nursing opened in 1982 as one of the first academic nurse managed centers in the United States. College of Nursing faculty and students provide non-emergency, episodic health care and health education to community residents who do not have health insurance.

Website: [Nursing Center for Community Health](#)

Nutrition Center

The University of Akron Nutrition Center is a comprehensive regional center for the study and delivery of effective nutrition interventions. It provides the needed link between UA nutrition expertise and the extensive preventative health care needs of the campus and our surrounding community. The Center serves as an educational resource for students and the community, provides nutrition services and conducts research in sports nutrition, chronic disease treatment, wellness and disease prevention, nutrition information technology, food safety and sanitation and community nutrition.

Website: [Nutrition Center](#)

Ray C. Bliss Institute of Applied Politics

The Ray C. Bliss Institute of Applied Politics is a public education and research adjunct of Buchtel College of Arts and Sciences. The broad purposes of the institute, in keeping with the career of its namesake, Ray C. Bliss, are: to give all citizens, and particularly students, an opportunity to learn how to become active and competent in political life; to help maintain a tradition of ethical public service in politics; to foster useful relationships between applied politics and political science; to promote public comprehension of political organizations and the requirements for their effectiveness and to improve understanding of continuity and change in American political institutions.

Website: [Ray C. Bliss Institute of Applied Politics](#)

The University of Akron Archival Services

The University of Akron Archival Services collects, preserves, and provides access to materials which have lasting historical or other research interest and which relate primarily to the University of Akron or to northeastern Ohio. The archives include two major divisions. University Archives contains historical materials by and about the University of Akron and its predecessor, Buchtel College, dating back to its founding in 1870 including issues of the yearbook, the student newspaper, bulletins, graduation programs, and office records. Regional history materials include historical records such as personal papers and records of local governments, businesses, labor unions, and civic organizations relating to northeastern Ohio with a focus on Akron and Summit County. Among the regional history collections are those pertaining to the rubber industry, canals, and lighter-than-air-flight. The Archives also houses other special collections including rare books and the B-26 Marauder Archives.

Website: [The University of Akron Archival Services](#)

Training Center for Fire and Hazardous Materials

The Training Center for Fire and Hazardous Materials brings the University, government and industry together into one comprehensive regional center to integrate educational programs, fire and hazardous materials training and other applications of fire and safety technology. The Center is chartered from the Division of EMS and offers all State Certified Classes for firefighter certification. The Center employs 190 certified Emergency Services Instructors to fill any training requirement for municipal and business and industry. The center coordinates seminars and workshops presented by the Federal Emergency Management Agency (FEMA), the National Fire Academy, the Division of State Fire Marshal and other related organizations. Training in all phases of hazardous materials containment and fire prevention and control is provided under contract to various municipalities, industries and agencies. The programs are supported by the faculty of the Fire Protection Technology degree program and the Emergency Management degree program in association with other state and nationally recognized professionals. The Training Center serves a multi-county area, having partnerships with the Medina County Career Center and offering all levels of Fire Classes at the Medina County University Center.

Website: [Training Center for Fire and Hazardous Materials](#)

Training Center for Law Enforcement and Criminal Justice

The Training Center for Law Enforcement and Criminal Justice provides basic peace officer training academies, police refresher training, firearms requalification and in-service seminars.

Website: [Training Center for Law Enforcement and Criminal Justice](#)

University of Akron Magnetic Resonance Center (UA/MRC)

The MRC provides UA students and faculty, and the industrial and external academic scientific community, with access to routine and state-of-the-art magnetic resonance facilities and technical expertise. These capabilities include instruments for solution and solid state NMR, electron paramagnetic resonance, and the expertise of technical staff with experience in using these instruments for problem solving in chemistry, biological sciences, polymer science and engineering. Students and faculty are trained in the use of the instruments and NMR techniques in general through an ongoing educational process. The Center has instruments in The Knight Chemical and Goodyear Polymer buildings.

Website: [University of Akron Magnetic Resonance Center \(UA/MRC\)](#)

William and Rita Fitzgerald Institute for Entrepreneurial Studies

In 1995, a generous gift from William and Rita Fitzgerald created the Fitzgerald Institute for Entrepreneurial Studies in the College of Business Administration. The Institute was established to promote the principles of free enterprise and encourage entrepreneurial spirit and practices both within the University's curriculum and throughout the business community.

The Fitzgerald Institute focuses on the development of curriculum appropriate for both new ventures and the entrepreneurial development and growth of existing businesses. The Institute provides the needed link between the University and the community of entrepreneurs critical to business development in the future.

For information, call 330-972-8479.

Website: [William and Rita Fitzgerald Institute for Entrepreneurial Studies](#)

Workforce Development and Continuing Education

The mission of Workforce Development and Continuing Education is to serve the people of Northeast Ohio by offering courses and programs that increase access to The University of Akron, linking it with community, business and industrial workforce needs.

Workforce Development and Continuing Education at The University of Akron provides a wide range of educational, technical and research services that enhance the effectiveness and quality of workforce learning. In addition, Workforce Development and Continuing Education provides services that require the special expertise of the faculty and staff to better serve the economic and social development of Northeast Ohio. Grant monies may be available to help with costs.

Website: [Workforce Development and Continuing Education](#)

Course Numbering System

Each course at the University has two numbers. One designates the college and department of which it is part; one specifies the subject matter of the particular course. For instance:

3300:220 English Literature

In the above example, the first four digits of the number (3300) indicate the department. In this case, 3300 represents the Department of English. The second set of digits (220) following the colon, indicates exactly which course in the Department of English is being specified. The course number also indicates the level at which the course is being taught and the point at which the student is ready to take the course.

An explanation of the course numbering system follows:

100-199	First-year-level courses
200-299	Second-year-level courses
300-399	Third-year-level courses
400-499	Fourth-year-level courses
500-699	Master's-level courses
600-799	J.D.-level courses
700-899	Doctoral-level courses

When approved 400-level undergraduate courses are taken for graduate credit, they are designated as 500-level courses. A student must apply for and be admitted to the Graduate School to receive graduate credit.

NOTE: Courses listed each term contain an additional three-digit number indicating the specific section(s) offered.

Courses of Instruction

- [Army ROTC](#) (1600)
- [Interdisciplinary Programs](#) (1800)
- [Summit College](#) (2000)
- [Buchtel College of Arts and Sciences](#) (3000, 7000-7920)
- [College of Engineering](#) (4100)
- [College of Education](#) (5000)
- [College of Business Administration](#) (6000)
- [College of Health Professions](#) (7700, 8000)
- [College of Polymer Science and Polymer Engineering](#) (9821)
- [School of Law](#) (9200)

ROTC

- Aerospace Studies (1500)
- Military Science (1600)

Interdisciplinary Programs

- Home-Based Intervention Therapy (1820)
- Honors College (1870)
- Medical Studies (1880)

Summit College

- Cooperative Education (2000)
- Developmental Programs (2010)
- Distinguished Study Program (2015)
- Associates Studies English (2020)
- Associates Studies Mathematics (2030)
- Associates Studies Social Sciences (2040)
- Individualized Study (2100)
- Early Childhood Development (2200)
- Criminal Justice Technology (2220)
- Emergency Management (2230)
- Emergency Management (2235)
- Community Services Technology (2260)
- Hospitality Management (2280)
- Paralegal Studies (2290)
- Business Management Technology (2420)
- Real Estate (2430)
- Computer Information Systems (2440)
- Marketing and Sales Technology (2520)
- Office Admission (2540)
- Medical Assisting (2740)
- Radiologic Technology (2760)
- Surgical Technology (2770)
- Allied Health (2780)
- Respiratory Therapy (2790)
- General Technology (2820)
- Electromechanical Service Technology (2830)
- Polymer Technology (2840)
- Electronic Engineering Technology (2860)
- Automated Manufacturing Engineering Technology (2870)
- Manufacturing Engineering Technology (2880)
- Mechanical Engineering Technology (2920)

- Drafting and Computer Drafting Technology (2940)
- Surveying and Mapping (2980)
- Geographic and Land Information Systems (2985)
- Construction Engineering Technology (2990)

Buchtel College of Arts and Sciences

- Cooperative Education (3000)
- Women's Studies (3001)
- Pan-African Studies (3002)
- International Development Sciences (3004)
- Institute for Lifespan Development and Gerontology (3006)
- English Language Institute (3030)
- Biology (3100)
- Chemistry (3150)
- Classics (3200)
- Anthropology (3230)
- Archeology (3240)
- Economics (3250)
- English (3300)
- Geography (3350)
- Geology (3370)
- History (3400)
- Mathematics (3450)
- Computer Science (3460)
- Statistics (3470)
- Modern Languages (3500)
- Arabic (3501)
- Chinese (3502)
- Latin (3510)
- French (3520)
- German (3530)
- Italian (3550)
- Japanese (3560)
- Russian (3570)
- Spanish (3580)
- Philosophy (3600)
- Physics (3650)
- Political Science (3700)
- Psychology (3750)
- Sociology (3850)
- New Media (7000)
- Art - Myers School of (7100)
- Family and Consumer Sciences (7400)
- Music - School of (7500)
- Music Organizations (7510)

- Applied Music (7520)
- Communication - School of (7600)
- Theatre (7800)
- Theatre Organizations (7810)
- Dance (7900)
- Dance Organizations (7910)
- Dance Somatics (7915)
- Dance Performance (7920)

Notes:

- Biology/N.E.O.U.C.O.M (3100) - Graduate-level courses only. See Graduate Bulletin
- Engineering Applied (3490) - Graduate-level courses only. See Graduate Bulletin
- Engineering Applied (3980) - Graduate-level courses only. See Graduate Bulletin
- Arts Administration (7850) - Graduate-level courses only. See Graduate Bulletin

College of Engineering

- General Engineering (4100)
- Chemical Engineering (4200)
- Corrosion Engineering (4250)
- Civil Engineering (4300)
- Electrical Engineering (4400)
- Computer Engineering (4450)
- Mechanical Engineering (4600)
- Mechanical Polymer Engineering (4700)
- Biomedical Engineering (4800)
- Aerospace Systems Engineering (4900)

College of Education

- Cooperative Education (5000)
- Educational Foundations (5100)
- Early Childhood Education (5200)
- Middle Level Education (5250)
- Secondary Education (5300)
- Teaching and Training Technical Professionals (5400)
- Curriculum & Instruction (5500)
- General Education (5540)
- Physical Education (5550)
- Outdoor Education (5560)
- Health Education (5570)
- Educational Guidance and Counseling (5600)
- Special Education (5610)
- School Psychology (5620)
- Special Education Programs (5800)

Notes:

- Instructional Technology (5150) - Graduate-level courses only. See Graduate Bulletin.
- Educational Administration (K-12) (5170) - Graduate-level courses only. See Graduate Bulletin.
- Educational Administration (Higher Education) (5190) - Graduate-level courses only. See Graduate Bulletin.

College of Business Administration

- Cooperative Education (6000)
- General Business (6100)
- Finance for Non-Business Students (6140)
- Accountancy (6200)
- Entrepreneurship (6300)
- Finance (6400)
- Management (6500)
- Marketing (6600)
- International Business (6800)

Notes:

- Professional (6700) - Graduate-level courses only. See Graduate Bulletin.

College of Health Professionals

- Speech-Language Pathology and Audiology (7700)
- Social Work (7750)
- Nutrition and Dietetics (7760)
- Cooperative Education (8000)
- Nursing (8200)

Notes:

- Master of Public Health (8300) - Graduate-level courses only. See Graduate Bulletin.

College of Polymer Science and Polymer Engineering

- Polymer Science and Polymer Engineering (9821)
- Polymer Engineering (9841)
- Polymer Science (9871)

School of Law

Notes:

Graduate-level courses only. See Graduate Bulletin

Transfer Assurance Guide (TAG) Approved Courses

The University of Akron has established more than 130,000 courses equivalencies with other colleges and universities in Ohio and across the United States. As part of the University System of Ohio, the University has more than 198 Transfer Assurance Guide (TAG) approved courses which serve as a resource to students seeking to identify equivalent, or equal, TAG-approved courses at Ohio public institutions of higher education. A TAG course is unique in that it has been matched to a set of learning outcomes (identified by an Ohio articulated number code) in a specific academic subject area. Approved TAG courses carry the guarantee that the courses and their credits will transfer and apply toward the major at any of Ohio's public institutions, provided the course was taken when the courses were determined to be equivalent. The guarantee began in Fall 2005 with the creation of TAGs for 38 majors.

- [Arts & Humanities](#)
- [Business](#)
- [Communication](#)
- [Education](#)
- [Engineering](#)
- [Engineering Technology](#)
- [Fire Science](#)
- [Health](#)
- [Science & Mathematics](#)
- [Social & Behavioral Sciences](#)

Arts & Humanities

Art (Studio/Fine Arts)

TAG Number	Course
OAH 001	7100:131 Foundation Drawing I
OAH 003	7100:144 Foundation 2D Design
OAH 004	7100:145 Foundation 3D Design
OAH 006	7100:275 Introduction to Photography
OAH 047	7100:222 Introduction to Sculpture
OAH 048	7100:243 Introduction to Painting
OAH 050	7100:254 Introduction to Ceramics
OAH 051	7100:233 Foundation Life Drawing

Art History

OAH 005	7100:100 and 101, History of Art I and II
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OAH 006	7100:275 Introduction to Photography
OAH 047	7100:222 Introduction to Sculpture
OAH 048	7100:243 Introduction to Painting
OAH 049	7100:113 Introduction to Printmaking
OAH 050	7100:254 Introduction to Ceramics
OAH 051	7100:233 Foundation Life Drawing
Dance	
OAH 014	7920:316 Choreography
OAH 015	7920:116 and 117, Physical Analysis for Dance I and II
OAH 057	7900:115 Dance as an Art Form
English	
TME 001	3300:111 English Composition I
TME 002	3300:112 English Composition II
English Literature	
OAH 053	3300:341 American Literature I
OAH 055	3300:301 English Literature I
Music	
OAH 019	7500:104 and 105, Class Piano I and II
OAH 020	7520:124, 132, 137, 139, 228, 229, 235, 238, 123, 125, 128, 135, 138, 161, 166, 168, 237, 265, 268, 121, 127, 129, 130, 165, 167, 226, 231, 236, 269, 223, 234, 242, 267, 136, 162, 222, 224, 227, 233, 263, 122, 126, 133, 134, 142, 163, 225, 230, 240, 264, 266, 140, 221, 262, 131, 164, 169, 232, 239, or 261
OAH 022	7510:121, 103, 104, 125, 128, 115, 116, 114, or 120
OAH 052	7500:121 Theory & Musicianship I
	7500:122 Theory & Musicianship II
	7500:221 Theory & Musicianship III and
	7500:222 Theory & Musicianship IV
Philosophy	

OAH 045	3600:101 Introduction to Philosophy
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OAH 046	3600:120 Introduction to Ethics
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Theatre

OAH 024	7800:264 Playscript & Performance Analysis
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OAH 025	7810:110 Performance Laboratory
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OAH 026	7800:100 Experiencing Theatre
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OAH 027	7800:172 Acting I
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OAH 028	7800:265 Basic Stagecraft
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Business

OBU 001	6200:201 Accounting Principles I
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OBU 002	6200:202 Accounting Principles II
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OBU 004	6400:220 Legal & Social Environment of Business
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OBU 005	3300:275 Specialized Writing
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OBU 009	6500:304 Business Statistics and
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	6500:305 Business Analytics
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Communication

Communication Studies

OCM 001	7600:115 Survey of Communication Theory
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OCM 002	7600:235 Interpersonal Communication
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OCM 003	7600:344 Group Decision Making
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OCM 004	7600:105 Introduction to Public Speaking
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OCM 005	7600:106 Effective Oral Communication
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Public Relations/Advertising

OCM 006	7600:102 Survey of Mass Communication
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OCM 012	2520:203 Principles of Advertising
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Telecommunications

OCM 007	7600:282 Radio Production
COM 008	7600:280 Media Production Techniques
OCM 010	7600:283 Studio Production

Education

OED 001	5100:200 Introduction to Education
OED 002	5500:311 Instructional Resources
OED 003	5100:210 Characteristics of Learners and 5100:220 Educational Psychology
OED 004	5610:225 Introduction to Exceptionalities and 5610:440 Developmental Characteristics of Exceptional Individuals
OED 005	7400:265 Child Development
OED 006	5200:215 The Child, The Family and School

Engineering

OES 001	4800:101 Tools for Biomedical Engineering or 4200:101 Tools for Chemical Engineering or 4400:101 Tools for Electrical & Computer Engineering or 4600:165 Tools for Mechanical Engineering or 4300:101 Tools for Civil Engineering
OES 002	4300:201 Statics
OES 003	4600:203 Dynamics
OES 004	3470:401 Probability & Statistics for Engineers and 2030:345 Technical Data Analysis

Engineering Technology

Civil/Construction Engineering Technology

OET 15	2980:101, 102 Basic Surveying I and II
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OET 16	2990:131 Building Construction and
	2990:150 Blueprint Reading
OET 17	2990:237 Materials Testing I
OET 18	2990:238 Materials Testing II
Electrical Engineering Technology	
OET 001	2860:120 Circuit Fundamentals
OET 002	2860:237 Digital Circuits
OET 003	2860:122 AC Circuits
OET 004	2860:238 Microprocessor Applications
OET 005	2860:123 Electronic Devices
Mechanical Engineering Technology	
OET 007	2990:125 Statics
OET 008	2990:241 Strength of Materials
OET 009	2990:466 Hydraulics and
	2920:251 Fluid Power
OET 010	2880:110 Manufacturing Processes
OET 012	2940:210 Computer Aided Drawing I
OET 013	2920:142 Introduction to Material Technology
Fire Science	
OFS 001	2230:254 Fire Protection
OFS 002	2230:205 Fire Detection & Suppression Systems
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Health	
Dietetics	
OHL 016	7760:133 Nutrition Fundamentals
OHL 017	7760:250 Food Science Lecture & Lab

OHL 018	7760:310 Food Systems Management I and
	7760:315 Food Systems Management I Clinical

Health Information Management

OBU 003	2440:105 Introduction to Computers & Application Software
OHL 019	2740:121 Study of Disease Processes
OHL 020	2740:120 Medical Terminology

Science & Mathematics

Biology

OSC 003	3100:111 Principles of Biology I
OSC 004	3100:112 Principles of Biology II
OSC 024	3100:111 and 112 (2-course combination)

Chemistry - General

OSC 008	3150:151 Principles of Chemistry I - Lecture and
	3150:152 Principles of Chemistry I - Lab
OSC 009	3150:153 Principles of Chemistry II - Lecture and
	3150:154 Principles of Chemistry II - Lab
OSC 023	3150: 151, 152, 153, 154

Chemistry - Organic

OSC 010	3150:263, 264 Organic Chemistry I and II and
	3150:265, 266 Organic Chemistry Lab I and II

Geology

OSC 011	3370:101 Introduction to Physical Geology
OSC 012	3370:102 Introduction to Historical Geology
OSC 013	3370:230 Mineral Science

Mathematics

TMM 001	3450:145 College Algebra
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TMM 002	3450:149 Precalculus Mathematics
TMM 005	3450:221 Analytic Geometry-Calculus I
TMM 006	3450:222 Analytic Geometry-Calculus II
TMM 010	3470:261 Introductory Statistics I
TMM 017	3450:221, 222 Analytic Geometry & Calculus I and II
OMT 019	3450:312 Linear Algebra
OMT 020	3450:335 Introduction to Ordinary Differential Equations
Physics	
OSC 014	3650:261 Physics for the Life Sciences I or 2820:161, 162 Technical Physics: Mechanics I and II
OSC 015	3650:262 Physics for the Life Sciences II or 2820:163 Technical Physics: Electricity and Magnetism and 2820:164 Technical Physics: Heat and Light
OSC 016	3650:291 Elementary Classical Physics I
OSC 017	3650:292 Elementary Classical Physics II
OSC 021	2820:161, 162, 163, 164 Technical Physics: Mechanics I; II; Electricity and Magnetism; Heat and Light or 3650:261, 262 Physics for the Life Sciences I and II
OSC 022	3650:291, 292 Elementary and Classical Physics I and II
Social & Behavioral Sciences	
Anthropology	
OSS 001	3230:150 Human Cultures
OSS 002	3230:151 Human Evolution
OSS 003	3240:100 Introduction to Archaeology
Criminal Justice	
OSS 031	2220:100 Introduction to Criminal Justice
OSS 032	2220:105 Introduction to Police Studies

OSS 033	2220:103 Introduction to Corrections
OSS 034	2220:104 Evidence & Criminal Legal Process
Economics	
OSS 004	3250:200 Principles of Microeconomics
OSS 005	3250:201 Principles of Macroeconomics
Geography	
OSS 006	3350:310 Physical & Environmental Geography
OSS 007	3350:275 Geography of Cultural Diversity
OSS 008	3350:250 World Regional Geography
OSS 026	3350:305 Maps & Map Reading
History	
OHS 010	3400:250, 251 U.S. History to 1877; U.S. History Since 1877
OHS 041	3400:210 Humanities in the Western Tradition I
OHS 043	3400:250 U.S. History to 1877
OHS 044	3400:251 U.S. History Since 1877
Political Science	
OSS 011	3700:100 Government & Politics in the U.S.
OSS 012	3700:150 World Politics and Governments
OSS 013	3700:300 Comparative Politics
OSS 014	3700:210 State & Local Government and Politics
Psychology	
OSS 015	3750:100 Introduction to Psychology
OSS 016	3750:340 Social Psychology
OSS 017	3750:420 Abnormal Psychology
OSS 018	3750:335 Dynamics of Personality
OSS 047	3750:475 Psychology of Adulthood & Aging
OSS 048	3750:230 Developmental Psychology

Social Work

OSS 029 7750:275 Intro: Social Work Practice

OSS 030 7750:276 Introduction to Social Welfare

Sociology

OSS 021 3850:100 Introduction to Sociology

OSS 023 3850:340 The Family

OSS 024 3850:421 Race and Ethnic Relations

OSS 025 3850:310 Social Problems

ROTC

- Aerospace Studies (1500)
- Military Science (1600)

Course Details (1500)

113	THE FDTN OF THE US AIR FORCE I	1 credits
Survey course introducing the U.S. Air Force and ROTC. Officership and military customs and courtesies are discussed. Foundations of Air Force communication are covered.		
114	THE FDTN OF THE US AIRFORCE II	1 credits
Survey course covering the origin and organization of the Air Force. Selected topics contributing to an understanding of the Air Force are covered.		
115	LEADERSHIP LABORATORY	1 credits
Prepares an individual to undertake a broad range of technical tasks. Optional for academic credit; Mandatory for Air Force ROTC credit for scholarship/commissioning.		
253	EVOL OF US AIRFRC AIR&SPCPOW I	1 credits
Survey course examining air and space power from an historical perspective. Course covers early flight and World War I to the Korean War and ICBMS.		
254	EVOL OF US AIRFRCAIR&SPCPOW II	1 credits
Survey course examining air and space power from the Vietnam War to the Gulf War plus a look at the Air Force of the future.		
255	LEADERSHIP LABORATORY	1 credits
Prepares an individual to undertake a broad range of technical tasks. Optional for academic credit; Mandatory for Air Force ROTC credit for scholarship/commissioning.		
303	LEADERSHIP STUDIES I	3 credits
Prerequisite: permission of instructor. Study of leadership, professional knowledge and communication skills required for an Air Force officer. The roles of a leader as supervisor and counselor are discussed.		
304	LEADERSHIP STUDIES II	3 credits
Prerequisite: permission of instructor. Study of quality management fundamentals and communication skills for the Air Force officer. The Air Force personnel evaluation system and military ethics are discussed.		
305	LEADERSHIP LABORATORY	1 credits
Prepares an individual to undertake a broad range of technical tasks. Optional for academic credit; Mandatory for Air Force ROTC credit for scholarship/commissioning.		
453	DEFENSE STUDIES I	3 credits

Prerequisite: permission of instructor. Examines political, economic and social constraints on national security and defense structure. The role of the military, including joint operations and regional defense, are discussed.

454	DEFENSE STUDIES II	3 credits
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Prerequisite: permission of instructor. Roles of the military, regional defense, current Air Force issues, and other topics relevant to preparing an Air Force officer for active duty are covered.

455	LEADERSHIP LABORATORY	1 credits
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Prepares an individual to undertake a broad range of technical tasks. Optional for academic credit; Mandatory for Air Force ROTC credit for scholarship/commissioning.

Course Details (1600)

100	LEADERSHIP & PERSONAL DEVELOP	2 credits
Study of the mission of the Army, the principles of basic military leadership and management, land navigation, and opportunities in the Army. A geographical and cultural examination of the countries where U.S. soldiers are located. Leadership laboratory required. No military obligation incurred.		
101	INTRO: TACTICAL LEADERSHIP	2 credits
Study of the principles and techniques of military leadership and human resource management. Introduction to drill and ceremony, small unit tactics, briefing techniques, and public speaking. Leadership laboratory required. No military obligation incurred.		
110	LEADERSHIP & PERSONAL DEV LAB	1 credits
Students will participate in labs as a member of a cadet squad, learning to work with new people and gaining confidence through engaging in new and challenging situations that reinforce classroom instruction.		
111	INTRO: TACTICAL LEADERSHIP LAB	1 credits
Students will participate in labs as a member of a cadet squad, learning to work with new people and gaining confidence through engaging in new and challenging situations that reinforce classroom instruction. This Laboratory session will focus more on tactical training.		
200	INNOVATIVE TEAM LEADERSHIP	2 credits
Study of the principles of war and the art of leadership. Basic military skills taught through practical applications in marksmanship, map reading, first aid, and drill and ceremony. Leadership laboratory required. No military obligation incurred.		
201	FOUNDATIONS OF TACTICAL LDRSHP	2 credits
Study and application of the Leadership Development Program (LDP). Introduction to tactics, patrolling, and basic military skills. Leadership laboratory required. No military obligation incurred.		
210	INNOVATIVE TEAM LEADERSHIP LAB	1 credits
In their second year of military Science, students will begin to have a bigger leadership role within the ROTC organization and will participate in labs as a team leader. They will be responsible for the readiness and accountability of the first year cadets and are expected to begin to show confidence in leading others.		
211	FOUNDTS OF TACTICAL LDRSHP LAB	1 credits
Students will have a bigger leadership role within the ROTC organization and will participate in labs as a team leader. They will be responsible for the readiness and accountability of the first year cadets and are expected to begin to show confidence in leading others and in conducting tactical exercises.		

300	ADAPTIVE TEAM LEADERSHIP	3 credits
Prerequisites: 100, 101, 200, 201 and/or permission. Study in the application of military tactics, military history, military briefing techniques and equipment. Practical work with operations orders and planning, organizing, and executing training. Leadership laboratory required.		
301	LEADERSHIP UNDER FIRE	3 credits
Prerequisite: 300 or permission. Study of leadership, leadership counseling and tactics at the small-unit level. Practical work with land navigation, marksmanship training, squad and platoon movement, and battlefield survival. Leadership laboratory required.		
310	ADAPTIVE TEAM LEADERSHIP LAB	1 credits
Prerequisite: 211. Corequisite: 300. In their third year, as students enter the ROTC Advanced course, students will take on a much larger leadership role; responsible for squads and platoons of cadets as well as training them on the subject matter of each lab. They learn to motivate, instill confidence, and take responsibility for the quality of the training and activities of the labs.		
311	LEADERSHIP UNDER FIRE LAB	1 credits
Prerequisite: 310. Corequisite: 301. In their third year, as students enter the ROTC Advanced course, students will take on a much larger leadership role; responsible for squads and platoons of cadets as well as training them on the subject matter of each lab. They learn to motivate, instill confidence, and take responsibility for the quality of the training and activities of the labs.		
400	DEVELOPING ADAPTIVE LEADERS	3 credits
Prerequisites: 300, 301, or permission. Intensive investigation of the leadership process to include applicatory work emphasizing officer ethics, duties, and responsibilities. Management and supervisory skills. Practical experience with the Leadership Development Program (LDP). Leadership laboratory required.		
401	LEADERSHIP IN A COMPLEX WORLD	3 credits
Prerequisites: 300, 301, or permission. Study of officer leadership and managerial responsibilities. Study of Army command organization and procedures, training management, personnel system, Uniform Code of Military Justice, and continued emphasis on counseling and human relations. Leadership laboratory required.		
410	DEVELOPING ADAPTIVE LEADERS LAB	1 credits
Prerequisite: 311. Corequisite: 400. Senior ROTC students are responsible for planning, managing, and supervising leadership labs for the entire cadet Battalion, as well as acquiring the necessary resources and equipment required for training		
411	LDRSHP IN A COMPLEX WORLD LAB	1 credits
Prerequisite: 410. Corequisite: 401. Senior ROTC students are responsible for planning, managing, and supervising leadership labs for the entire cadet Battalion, as well as acquiring the necessary resources and equipment required for training. They will later utilize the experience gained in leading cadets to aid them in leading United States Army Soldiers.		

Prerequisite: permission. (May be repeated for a maximum of six credits) Content varies with special topics. Texts to be selected according to topic and will use relevant library periodicals and journals. Existing library resources are adequate to support the course. Basic Camp, Advanced Camp, Airborne, and other specialty schools qualify for course credit.

Interdisciplinary Programs

- Home-Based Intervention Therapy (1820)
- Honors College (1870)
- Medical Studies (1880)

Course Details (1820)

403	HBI THEORY	3 credits
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Prerequisite: Admission to the Certificate Program. Overview of home based intervention to include philosophy and description of this programming as well as assessment of family, their home and community environment.

404	HBI TECHNIQUES & PRACTICE	3 credits
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Prerequisite: 403. Provides intervention techniques and skill areas required for home-based intervention and learning opportunities for matching techniques with specific family problems.

405	HBI INTERNSHIP	3-5 credits
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Prerequisite: 404. Gives students the opportunity to apply knowledge of home-based intervention in actual delivery process working with families in their homes under direct supervision of trained, experienced home based intervention therapists.

Course Details (1870)

250	HONORS COLLOQUIUM: HUMANITIES	2 credits
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Prerequisite: admission to University Honors College. Interdisciplinary colloquium on important issues in humanities.

260	HONORS COLLOQ: SOCIAL SCIENCE	2 credits
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Prerequisite: admission to University Honors College. Interdisciplinary colloquium on important issues in social sciences.

270	HONORS COLLOQ: NATURAL SCIENCE	2 credits
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Prerequisite: admission to University Honors College Interdisciplinary colloquium on important issues in natural sciences.

350	HONORS COLLOQ: HUMANITIES	2 credits
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Prerequisite: admission to University Honors College. Interdisciplinary colloquium on important issues in humanities.

360	HONORS COLLOQ: SOCIAL SCIENCE	2 credits
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Prerequisite: admission to University Honors College. Interdisciplinary colloquium on important issues in social sciences.

370	HONORS COLLOQ: NATURAL SCIENCE	2 credits
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Prerequisite: admission to University Honors College. Interdisciplinary colloquium on important issues in natural sciences.

450	HONORS COLLOQUIUM: HUMANITIES	2 credits
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Prerequisite: admission to University Honors College. Interdisciplinary colloquium on important issues in humanities.

460	HONORS COLLOQ: SOCIAL SCIENCE	2 credits
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Prerequisite: admission to University Honors College. Interdisciplinary colloquium on important issues in social sciences.

470	HONORS COLLOQ: NATURAL SCI	2 credits
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Prerequisite: admission to University Honors College and Junior standing. Interdisciplinary colloquium on important issues in natural sciences.

Summit College

- Cooperative Education (2000)
- Developmental Programs (2010)
- Distinguished Study Program (2015)
- Associates Studies English (2020)
- Associates Studies Mathematics (2030)
- Associates Studies Social Sciences (2040)
- Individualized Study (2100)
- Early Childhood Development (2200)
- Criminal Justice Technology (2220)
- Emergency Management (2230)
- Emergency Management (2235)
- Community Services Technology (2260)
- Hospitality Management (2280)
- Paralegal Studies (2290)
- Business Management Technology (2420)
- Real Estate (2430)
- Computer Information Systems (2440)
- Marketing and Sales Technology (2520)
- Office Admission (2540)
- Medical Assisting (2740)
- Radiologic Technology (2760)
- Surgical Technology (2770)
- Allied Health (2780)
- Respiratory Therapy (2790)
- General Technology (2820)
- Electromechanical Service Technology (2830)
- Polymer Technology (2840)
- Electronic Engineering Technology (2860)
- Automated Manufacturing Engineering Technology (2870)
- Manufacturing Engineering Technology (2880)
- Mechanical Engineering Technology (2920)
- Drafting and Computer Drafting Technology (2940)
- Surveying and Mapping (2980)
- Geographic and Land Information Systems (2985)
- Construction Engineering Technology (2990)

Course Details (2000)

201	COOPERATIVE EDUCATION	0 credits
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(May be repeated) Prerequisite: cooperative education students only. Work experience in business, industry or governmental agency. Comprehensive performance evaluation and written report required.

301	COOPERATIVE EDUCATION	0 credits
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(May be repeated) Prerequisite: cooperative education students only. Work experience in business, industry or governmental agency. Comprehensive performance evaluation and written report required.

Course Details (2010)

042	BASIC WRITING	0 load hours**
<p>Provides intensive practice in the process of writing, in sentence structure and punctuation, and in correct written expression. Upon successful completion of Basic Writing, the student should be prepared to enter English (2020:121), or English Composition I (3300:111). Writing Lab hours are required.</p>		
050	BASIC MATHEMATICS I	0 load hours**
<p>Prerequisite: Placement. An intensive review of arithmetic and an introduction to the concepts of elementary algebra. Emphasis is placed on developing learning strategies and controlling anxieties. Upon successful completion of Basic Mathematics I, the student should be prepared to enter Basic Mathematics II.</p>		
052	BASIC MATHEMATICS II	0 load hours**
<p>Prerequisite: Completion of 2010:050 (formerly 1020:050) with a grade of C or better or Placement. A brief review of arithmetic and intensive instruction in elementary algebra. Emphasis is placed on developing learning strategies and controlling anxieties. Upon successful completion of Basic Mathematics II, the student should be prepared to enter Business Mathematics (2420:170); Introduction to Technical Math (2020:130); Elements of Math I (2030:151); or Preparatory Math (3450:100).</p>		
054	BASIC MATHEMATICS II SUPPORTED	0 credits
<p>Prerequisites: 2010:050 and approval from Office of Accessibility. See Basic Mathematics II (2010:052). Double length class period allows supplemental instruction and assistance in beginning algebra. Emphasis on developing learning strategies and controlling anxieties.</p>		
056	BASIC MATH II EXTENDED -PART A	0 credits
<p>Prerequisite: 2010:050 and approval from Office of Accessibility. First half of a slower paced two-semester version of Basic Mathematics II (2010:052). Introduces elementary algebra, linear equations, polynomials, graphing, slope.</p>		
057	BASIC MATH II EXTENDED -PART B	0 credits
<p>Prerequisite: 2010:056 (Part A). Second half of a slower paced two-semester version of Basic Mathematics II (2010:052) covering factoring, rational expressions, radicals, and quadratic equations.</p>		
060		0 load hours**
<p>Prerequisite: Placement. Designed to strengthen the basic comprehension skills needed for academic work, including recognition of main points and key supporting ideas, inferencing, summarizing, and vocabulary development. Upon satisfactory completion of College Reading, the student should be prepared to enter College Reading and Study Skills (1020:062). Lab hours are required.</p>		
062	COLLEGE READING & STUDY SKILLS	0 load hours**

Course Details (2015)

150

DISTINGSHED STUDENT COLLOQ

2 credits

See department for course description.

Course Details (2020)

120	WRITING AND EDITING	1 credits
Examination of the editing process of writing. Focuses on developing a clear, effective, and correct professional writing style appropriate for academic and business documents.		
121	ENGLISH	3 credits
English composition focused on inventive writing, essay structure, process, consideration of strength, source of evidence, and citation; and development options leading to persuasion and argument.		
123	WRITING FOR PRESENTATIONS	1 credits
A writing intensive course that focuses on the rhetorical and theoretical challenges and considerations of effective presentations.		
216	COLLABORATIVE WRITING	1 credits
Prerequisites: 3300: 111 or 2020: 121 or equivalent. A writing course that focuses on strategies and techniques for successful collaborative writing in the workplace.		
220	WRITING AND RESEARCH	1 credits
Prerequisite: 121 or 3300:111 or equivalent. Practical examination of writing effectively and professionally about primary and secondary research sources in the student's choice of several citation methods.		
222	TECHNICAL REPORT WRITING	3 credits
Prerequisite: 121, 3300:111 or equivalent. Prepares student to write the types of reports most often required of technicians, engineers, and scientists. Includes types of reports, memoranda, and letters; techniques of research, documentation and oral presentations.		
224	WRITING FOR ADVERTISING	3 credits
Prerequisite: 121, 3300:111 or equivalent. Introduction to the copywriter's role in print, broadcast, and Web advertising. Study of advertising language; practice in writing advertisements and producing collateral copywriting materials.		
226	ELCTR N REF RES COMPUTER AGE	3 credits
Prerequisites: 2020:121 or 3300:111. Designed for individuals to broaden their scope and understanding of various electronic research techniques. Study, evaluation, and use of current and emerging technologies will be examined.		
227	WRITING FOR WORLD WIDE WEB	3 credits

Prerequisites: 121 or equivalent (3300:111), familiarity with Internet (or attend Computer Center training seminar) knowledge of word processing software. Introductory course examines spoken and written contexts merging into one "writing space"; provides writing theory and practice for effective e-mail, newsgroup, chat, and web site writing.

290

ST: ASSOCIATE STUDIES

1-4 credits

(May be repeated with a change in topic) Prerequisite: permission. Selected topics on subject areas of interest in associate studies.

Course Details (2030)

130	MATH FOR ALLIED HEALTH	3 credits
Prerequisite: Completion of 2010:052 or 057 with a grade of C or better or placement test. The real number system, systems of measurement, conversions, linear equations, factoring, quadratic equations, graphing, linear systems, organizing data, averages, standard deviation, the normal distribution.		
151	TECHNICAL MATHEMATICS I	2 credits
Prerequisite: Completion of 2010:052 or 057 with a grade of C or better or placement test. Fundamental concepts and operations, functions, graphs, factoring and algebraic fractions, and quadratic equations.		
152	TECHNICAL MATHEMATICS II	2 credits
Prerequisite: 151 with a grade of C- or better, or placement test. Variation, equations of lines, Cramer's rule, right triangle trigonometry, oblique triangles, complex numbers.		
153	TECHNICAL MATHEMATICS III	2 credits
Prerequisite: 152 or equivalent with a grade of C- or better, or placement test. Factoring, algebraic fractions, exponents and radicals, equations with radicals, equations in quadratic form, functions, their properties and graphs, exponential and logarithmic functions, radian measure.		
154	TECHNICAL MATHEMATICS IV	3 credits
Prerequisite: 153 or equivalent with a grade of C- or better, or placement test. Functions and their graphs, polynomial and rational functions, polynomial equations, graphs of trigonometric functions, trigonometric identities and equations, analytic geometry, complex numbers in polar form.		
161	MATH FOR MODERN TECHNOLOGY	4 credits
Prerequisite: 2010:052 or placement by advisor. Lines, linear regression, sets, counting, basic probability, basic statistics, binomial and normal distributions, mathematics of finance, symbolic logic, arguments, logic circuits.		
255	TECHNICAL CALCULUS I	3 credits
Prerequisite: 154 or equivalent with a grade of C- or better, or placement test. The derivative, applications of the derivative, derivatives of the trigonometric, logarithmic and exponential functions. Integration by antidifferentiation.		
260	ADVANCED TRIGONOMETRY	2 credits
Prerequisite: 2030:153 or equivalent with a grade of C- or better, or placement test. Horizontal circular curves, vertical curves, and spherical triangles.		
290	ST: ASSOC STUDIES MATH	1-4 credits

Course Details (2040)

230	TECHNICAL CAREER SEARCH SKILLS	1 credits
Students will develop specific skills in resume writing, interviewing, self-directed job search, networking, researching employers, as well as learning the fundamentals of the job market.		
240	HUMAN RELATIONS	3 credits
Examination of principles and methods which aid in understanding the individual's response to society and the relationship between society and individuals.		
241	TECHNOLOGY & HUMAN VALUES	2 credits
Examination of impact of scientific and technical change upon people, their values and institutional arrangements. Topics include biomedical technology, automation, economic growth, natural environment and technology and quality of life.		
242	AMERICAN URBAN SOCIETY	3 credits
Multidisciplinary treatment of urban processes and problems. Concerns historical, political, social, economic and other environmental forces which impact the individual in an urban setting.		
243	CONTEMPORARY GLOBAL ISSUES	3 credits
Multidisciplinary approach to global social problems. Examines cultural, political, and economic issues in developed and developing nations. Emphasizes technology's impact and global interrelationships.		
244	DEATH & DYING	2 credits
Examination of a wide range of topics related to death and dying. Emphasis is placed on understanding and coping with death and dying.		
247	SURVEY OF BASIC ECONOMICS	3 credits
Introduction to economic analysis and issues designed for the student taking only one course in economics. Coverage includes economic systems, exchange, money and banking, national income, employment, fiscal policy and current domestic economic problems.		
251	HUMAN BEHAVIOR AT WORK	3 credits
Examination of relationship between human behavior and the work organization. Emphasis on how contemporary organizations are changing and what makes individuals within their organizations more effective.		
254	THE BLACK EXPERIENCE 1619-1877	2 credits

Prerequisite: 2020:121 or 3300:112. Examination of the black American including origins, historical achievements and striving to achieve first-class citizenship in America from 1619 to 1877.		
256	DIVERSITY IN AMERICAN SOCIETY	2 credits
Prerequisites: 2020:121, or 3300:112 or equivalent. Survey course covering demographic, social, economic, political, and educational realities of diversity in 21st Century. Focus on diversity and unity, historical overview.		
257	THE BLACK EXPERIENCE 1877-1954	2 credits
Prerequisites: 2020:121 or 3300:112. Examines the experiences of Blacks following Reconstruction. Topics to include: Separate but Equal doctrine, segregation, integration, and the achievements of Blacks in American society.		
258	BLACK EXPERIENCE 1954-PRESENT	2 credits
Prerequisites: 2020:121 or 3300:112. Examines the relationship of the civil rights movement, Black nationalism, integration, segregation, and desegregation as strategies to ameliorate discrimination and achieve equal opportunity.		
271	INTRODUCTION TO LABOR STUDIES	3 credits
Overview of Trade Unionism in America from 18th Century to present with emphasis on factors affecting growth of unions. Rise of industrial unionism as alternative to craft unions. Trade union movements in other countries examined for their influence on American unions.		
272	COLLECTIVE BARGAINING I	3 credits
Review of collective bargaining dealing with wages, fringes and working conditions. Examination of contract content. Development of bargaining proposals. Skills required in negotiations and union/management responsibilities to community in collective bargaining. Strikes and impasse resolution.		
273	LEGAL FRMWK:COLLECT BARGAINING	3 credits
Legal framework within which collective bargaining process takes place. Rights of employees, union and employer under federal and state laws discussed in context of organizing, election and bargaining.		
274	LABOR LEGISLA & ECON SECURITY	3 credits
Prerequisite: 273 or permission. Federal and state legislation governing employment conditions and standards. Includes minimum wage, health and safety, unemployment compensation, TDI, civil rights and anti-discrimination, social security, labor management reporting, and disclosure.		
275	COLLECTIVE BARGAINING II	3 credits
Prerequisite: 272. Mechanics and skills of formal grievance procedures in industrial, craft and public setting. Investigation, record keeping and presentation of grievance, as well as study of arbitration process and preparation and presentation of arbitration cases.		
276	OCCUP HEALTH & SAFETY STANDARD	3 credits

Prerequisite: 273. Examination of William/Steiger Occupational Safety and Health Act and rights and responsibilities conferred on unions by this act. Includes not only workings of the law but also hazards recognition study.

277 FAIR PRACTICES & EQUAL OPPORTU 2 credits

Prerequisite: 271. Rights and responsibilities of unions and union members as related to Title VII of the Civil Rights Act, the Voting Rights Act and development of EEOC.

278 UNION LEADERSHIP 2 credits

Prerequisite: 271. Specific skills related to administration of local unions structure and duties and responsibility of officers.

279 PROBLEMS IN LABOR STUDIES 3 credits

Prerequisite: final semester or permission. Each student required to combine field research and classroom time to identify, explore and propose an approach to a current problem in labor/management relations.

280 WAGE ADMINISTRATION 3 credits

Prerequisites: 271, 272 or 273. Wage and salary determination: structure of wages, salaries and fringe benefits and use of merit and incentive plans. Methods of compensation analyzed. Impact of federal and state laws governing the payment of wages.

281 PUBLIC SECTOR LABOR RELATIONS 3 credits

Prerequisite: 271. Analyzes current problems, developments and issues in public sector collective bargaining from growth of public employee unions to the nature of bargaining in the public sector. Includes bargaining issues, right-to-strike and use of arbitration in public sector.

282 LABOR LAW IN THE PUBLIC SECTOR 3 credits

Prerequisite: 271. Provides basic understanding of legal requirements and restraints placed upon parties when bargaining within federal, state and local sectors as well as postal and educational areas. Legal framework of collective negotiations or contract administration.

290 ST: ASSOC STUDIES-SOCIAL SCI 1-4 credits

(May be repeated with a change in topic) Prerequisite: permission. Selected topics on subject areas of interest in the social sciences.

344 DEATH & DYING 2 credits

Examination of a wide range of topics related to death and dying. Emphasis is placed on understanding and coping with death and dying.

Course Details (2100)

195

INDIVIDUALIZED STUDY

1 credits

Prerequisite: admission to the Distinguished Student Program. Focused investigation of a specific topic mutually determined by the student and a supervising faculty member.

Course Details (2200)

110	FOUNDATIONS IN EARLY CHLDHD ED	3 credits
Provides students with a comprehensive overview of model early childhood programs and places emphasis on interactions between home and school that impact children's development.		
245	INFANT/TODDLER DAY CARE PROG	3 credits
Survey of infant/toddler development. Principles of infant/toddler caregiving. Design of environment and curriculum based on child's needs. Includes observation of children. (20 field hours required)		
246	MULTICULT ISSUES IN CHILD CARE	3 credits
The study of cultural differences in child care and preschool settings to improve caregiving practices and enhance communication between caregivers and families.		
247	DIVERSITY EARLY CHILD LITERACY	3 credits
Examination and analysis of children's books and materials on diversity reflecting differences and similarities of groups of people that make up our society.		
250	OBSERV & RECORD CHILD BEHAVIOR	3 credits
Prerequisite: 7400:265 or permission. Develops observing and recording skills using different types of records to assess children's development and behavior. (10 field hours required)		
290	ST: EARLY CHILDHOOD DEVELOPMT	1-3 credits
Selected topics/workshops on subject areas of interest in early childhood development. May be repeated up to 4 credits.		
295	EARLY CHILDHOOD PRACTICUM	5 credits
Prerequisites: 245 and 5200:360, 370 and 7400:265, 270, 280. Supervised practicum in an early childhood/preschool educational setting designed for Early Childhood Development students only.		
297	INDEPENDENT STUDY	1-3 credits
(May be repeated for a total of six credits) Prerequisite: permission. Selected topics and special areas of study under supervision and evaluation of selected faculty member with whom specific arrangements have been made.		

Course Details (2220)

100	INTRODUC TO CRIMINAL JUSTICE	3 credits
Overview of criminal justice system, its history, development and evolution within the United States including subsystems of police, courts, corrections. Constitutional limitations, current criminal justice practices human relations, professionalization, prevention.		
101	INTRO TO SECURITY ADMIN TECH	3 credits
Introduces fundamentals such as equipment, technology, design theories, management practices, trends, concerns, and issues in security administration.		
102	PRINCIPLES OF CRIMINAL LAW	3 credits
Prerequisite: 2220:100. This course examines the central principles of criminal law, including its history, philosophy, the elements of major crimes and criminal defenses.		
103	INTRODUCTION TO CORRECTIONS	3 credits
Prerequisite: 100 Introduction to history and goals of institutional and community corrections.		
104	EVIDENCE & CRIM LEGAL PROCESS	3 credits
Prerequisite: 2220:100. Study of evidence law, constitutional perspectives and law enforcement officer's relationship thereto. Court procedures from arrest to incarceration.		
105	INTRO: POLICE STUDIES	3 credits
Prerequisite: 100. Provides a foundation for understanding police role, structure, and function in American society at the local, state, and federal levels.		
106	JUVENILE JUSTICE PROCESS	3 credits
Prerequisite: 2220:100. Examination of juvenile justice system, functions of its various components; adolescent subculture, legislation, causative factors, prevention and treatment methodologies and programs.		
120	CRIME PREVENT: THRY, PRCT, MGT	3 credits
Examines contemporary crime prevention and security strategies used in target hardening. Central theme is the use of community resources to prevent crime.		
222	INTERVIEW & INTERROGATION	3 credits
Prerequisite: OPOTC Certification. A course of study on interview and interrogation which will teach the student how to obtain information in an orderly, effective, and legally sufficient manner.		

224	PROFILING SERIAL KILLERS	3 credits
Prerequisite: 100. Introduction to the theories, analyses, and methodology used in profiling serial killers. Actual serial profiles and paradigms of crime scene analyses also examined.		
225	THE POLICE EXPERIENCE	3 credits
Prerequisites: 100, permission. Academic refresher course of basic police academy. Completion (C or better) and 2220:100 qualifies a commissioned police officer to test out of certain courses (see adviser).		
226	INTRVS, INTER & HOSTAGE NEGOT	3 credits
Prerequisite: 100. An overview of the legal, theoretical, and applied aspects of conducting interviews, interrogations, and hostage negotiations within the field of law enforcement.		
231	PHYS SEC: SYSTEMS, DSGN & CTRL	3 credits
Prerequisite: 101. Topics include: controlling and monitoring the access of persons and vehicles, prevention and detection of unauthorized intrusions and surveillance, and safeguarding key assets.		
232	LEGAL ISSUES IN SECURITY ADMIN	3 credits
Survey of laws applicable to the security administration function including tort, labor, employment, unemployment, workers' compensation, contract, insurance, cyber, criminal and constitutional law.		
233	SEC INVESTGTNS: PRINC & PRACT	3 credits
Overview of investigative methods employed by the security manager. Students will examine legal and ethical duties and issues related to investigation.		
234	COMPUTER AND INFO SECURITY	3 credits
Prerequisite: 101. Examines practical applications of effective information security measures and legal, ethical and privacy issues concerning the storage and use of information in society.		
235	SCHOOL CRIME & VIOLNCE PREVENT	3 credits
Prerequisites: 101, 120. Examines the nature and extent of crime and deviance in American schools. Particular focus is on the use of a systems approach to prevent crime.		
240	VICE & ORGANIZED CRIME	3 credits
Prerequisites: 100 and permission. An overview of organizations operating nationally and internationally in a variety of criminal activities with a particular emphasis on narcotics trafficking.		
245	HOMELAND SECRTY: PRINC & PRAC	3 credits
Prerequisite: 101. Overview of fundamental homeland security concepts and issues such as: intelligence, critical infrastructure protection, hazards, strategy, policy, risk, organizational design and leadership.		
250	CRIMINAL CASE MANAGEMENT	6 credits

Prerequisites: 100, 2820:105 and permission. Reconstruction of chronological sequence of a crime including searching, collection, preserving and evaluation of physical and oral evidence. Scientific approach to criminal investigation.

251 CRIMINAL INVESTIGATION 3 credits

Prerequisite: 100. The course provides the student with fundamental investigative skills and the ability to manage a criminal case from initiation through conclusion.

253 BASIC FORENSIC METHODS 3 credits

Prerequisites: 100, 2820:105. Introduction to the science, technology and application of forensic methods in the investigation of crime.

255 INTRO: FORENSIC INVESTIGATION 3 credits

Prerequisite: 100. This course is designed to introduce the student to the field of forensic science. The emphasis will be on skills and techniques of evidence evaluation.

260 CRITICAL INCIDENT INTERVENT CJ 3 credits

Prerequisite: 100. This course is designed to introduce the student to the stressors and emotions of dealing with people and workers involved in crisis situations.

262 POLICE ADMINISTRATION 3 credits

Prerequisite: OPOTC Certification. Approaches to police administration from an overview perspective providing the fundamentals of administration and management while giving the law enforcement student a framework for understanding.

270 COMMUNITY CORRECTIONS 3 credits

Prerequisite: 100. Examines the corrections component of the criminal justice system. Special focus on the development and use of probation, parole, and other alternative forms of sentencing.

275 LEGAL ASPECTS OF CORRECTIONS 3 credits

Examination of the influence of the legal system on corrections, especially United States Supreme Court decisions.

280 CYBERCRIME 3 credits

Examines crime and deviance in cyberspace. Particular focus is on the prevention of computer intrusion in the workplace.

281 COMPUTER FORENSIC METHODS 3 credits

Prerequisites: 100 or 101. Examination of computer forensic methods employed to identify, collect, recover, authenticate, preserve, analyze, and document electronic evidence for criminal or civil legal purposes.

286 COURTROOM COMMUNICATION 3 credits

Prerequisite: 100. Witnessing studies the trial process, emphasizing role of witnesses. Effective communication to juries, applicable evidentiary rules and preparation techniques are taught, preparing students for direct and cross-examination.

287 THE LEGAL SYSTEM & PSYCHOLOGY 3 credits

Prerequisite: 100. Examination of various areas where law and psychology interface, particularly in criminal cases by examining the expanding role of psychology in justice system and the courtroom.

292 ST: CRIMINAL JUSTICE 1-4 credits

(May be repeated for a total of six credits). Prerequisite: permission. Workshops and special programs in selected areas of criminal justice such as community relations, crime statistics, ethics, survival.

296 CT: CRIMINAL JUSTICE 1-3 credits

Prerequisite: 100. A variety of course topics on current subjects relative to law enforcement and the Criminal Justice System. May be repeated for up to 12 credits.

297 INDP STUDY: CRIMINAL JUSTICE 1-3 credits

Prerequisite: 100 and permission. Selected topics and special areas of study in Criminal Justice Technology under the supervision of a selected faculty member with whom specific arrangements have been made.

298 APPLIED ETHICS IN CRIM JUSTICE 3 credits

Prerequisite: 100. This course deals with ethical considerations which confront justice practitioners and the legal ramifications of misconduct.

Course Details (2230)

100	INTRODUCTN TO FIRE PROTECTION	4 credits
History and philosophy of fire protection; introduction to agencies involved; current legislative developments; discussion of current related problems, expanding future of fire protection and career orientation.		
102	FIRE SAFETY BLDG DESGN & CONST	3 credits
Exploration of building construction and design with emphasis on fire protection concerns; review of related statutory and suggested guidelines local, state and national scope.		
104	FIRE INVESTIGATION METHODS	4 credits
History of fire investigation; gathering of evidence and development of technical reports; fundamentals of arson investigation; processing of criminal evidence and procedures related to local and state statutes.		
202	INCIDENT MGMT FOR EMER RESPOND	4 credits
Efficient and effective use of human resources, equipment and systems. Emphasis on preplanning , incident management, problem solving related to emergency preparation and response.		
204	FIRE AND LIFE SAFETY EDUCATION	3 credits
Application and analysis necessary for the implementation of the Life Safety Code Handbook.		
205	FIRE DETECTN & SUPPRSN SYS	3 credits
Design, installation, maintenance and utilization of portable fire extinguishing appliances and pre-engineered automatic systems; fire detection and alarm signaling systems operational capabilities, requirements.		
206	FIRE SPRINKLER SYSTEM DESIGN	3 credits
Prerequisite: 205. Design, installation and operation of automatic fire suppression systems. Includes sprinkler, foam, carbon dioxide, dry chemical, halogenated agent systems.		
250	HAZARDOUS MATERIALS	4 credits
Prerequisite: 100. Study of chemical characteristics and reactions related to storage, transportation and handling of hazardous materials. Emphasis on emergency situations, firefighting and control.		
254	FIRE PREVENTION	3 credits
Prerequisite: 104. Fire codes and standards relative to fire prevention, inspection, and code enforcement.		
257	FIRE & SAFETY ISS FOR BUS/IND	3 credits

Industrial fire and safety issues related to specialized hazards, federal and state regulations. Emphasis on emergency response team preparedness, confined space entry, and rescue.

280 FIRE SERVICE ADMINISTRATION 4 credits

Prerequisite: 100. Fire officer professional qualifications; federal, state regulations governing department operations-OSHA, EPA; emergency and non-emergency operations procedures-ICS, IMS, Emergency Operations Center are presented.

290 ST: FIRE SCIENCE TECHNOLOGY 1-4 credits

(May be repeated for a total of four credits) Prerequisite: permission. Selected topics or subject areas of interest in fire protection technology.

294 ADVANCED FIRE INVESTIG METHODS 3 credits

Prerequisites: 100, 104, 205, 206. Designed to meet student and in service fire investigators need to understand new/updated technology and methodology in managing fire investigations.

295 TECHNICAL FIRE TRAIN/FIELD EXP 4 credits

Prerequisites: 30 credit hours of successfully completed course work in the Fire Protection Technology program which includes 100, 102, 104, 204, 205, and 280. Technical training/field experience analysis by student and instruction of technical training; potentially leading to state 240-hour fire fighter certification.

297 INDP STUDY: FIRE PROTECTION 1-3 credits

Prerequisite: 2230:100 and permission. Selected topics and special areas of study in fire protection technology under the supervision and evaluation of a selected faculty who assigns specific arrangements.

Course Details (2235)

305	PRNCPLS OF EMERGENCY MGMT	3 credits
An overview of the history and philosophy, terms and concepts, and local, state and federal roles in emergency management. Emphasizes manmade, natural and technological hazards.		
320	EMERGENCY MANAGEMENT BUSINESS	3 credits
Prerequisites: 305 and 350. Examines business components of emergency management in both the private and public sectors. Also emphasizes business continuity plans along with case studies.		
350	EMER RESPONSE PREP & PLAN	3 credits
Prerequisite: 305. Legal requirement, planning formats, and response procedures are presented. Special focus community risk assessment: hazard analysis, vulnerability assessment, and community response capability assessment.		
355	EMER MGT RSCH METH & APPL	3 credits
Introduction to scientific method and processes, professionalism, databases and reliability, qualitative, and quantitative methods. Utilization of research for appropriate decision making.		
360	INTRODUCTION TO TERRORISM	3 credits
Corequisite: 305. Examines terrorism from historical, international, transnational, and domestic perspectives. Includes political and religious terrorism along with emergency management considerations.		
370	HAZARD PROCESSES FOR EMER MGMT	3 credits
Overview of hazards theory and various natural and technological hazards. Emphasis on emergency management perspectives in regard to various topics.		
380	DISASTER VICTIMS: CAS & RECOV	3 credits
Prerequisites: 305 and 350. Analysis of citizen actions before, during and following major disasters including review of contemporary research and developing theory.		
385	DISASTERS IN FILM AND MEDIA	3 credits
Examines how contemporary culture perpetuates myths of natural and technological disasters. Students deconstruct and analyze reality from the myths in various types of media.		
401	CRISIS LEADERSHIP	3 credits

Course Details (2260)

100	INTRODUC TO COMMUNITY SERVICES	3 credits
Introductory course to familiarize student with role of community services technician in service delivery. Use, history and rationale for paraprofessionals, programs, volunteer experiences, self-awareness, and interaction in community services.		
120	INTRO: MENTAL HEALTH SERVICES	3 credits
Prerequisites: 3750:100, 7750:276. Provides students with beginning knowledge base of mental health social services, an introduction to causes and symptoms of mental health disorders, and a greater sensitivity for working with individuals who suffer from chronic and severe mental disorders.		
121	SOCIAL SERVICE TECH I	3 credits
Prerequisite: 171. Preparation to provide helping interventions as Social Work Assistants. Focuses on helping relationships, helping and problem-solving processes, social work values, attending skills and interview techniques.		
122	SOCIAL SERVICE TECH II	3 credits
Corequisite: 121. Focus on enhancing self-awareness. Provides basic knowledge about social group work and opportunities for students to practice beginning group work techniques by co-facilitating group discussions and experiential activities.		
131	INTRO: DEVELOP DISABILITIES	2 credits
This course provides an overview of developmental disabilities. Content includes definitions, classifications, causes, and characteristics of disabilities; legislation/regulations; service delivery models; and prevention.		
150	INTRODUC TO GERONTOLGCL SERV	3 credits
Basic orientation to gerontology and role of community service technician in service delivery to aged. Topics include social, biological, economical, and psychological aspects of aging; national and state legislation; services and service provider.		
171	CAREER ISSUES SOC SERV I	1 credits
Corequisite: 7750:276. Orients students to human service education and introduces them to the knowledge, skills, and attitudes essential for future educational and career success.		
172	CAREER ISSUES SOC SERV II	1 credits
Prerequisite: 171. Explores strategies to promote optimal effectiveness as a helper. Topics include time and stress management, burnout, self-care, professional development, ethical dilemmas, record-keeping, and termination.		

210	ADDICTION EDUC & PREVENTION	3 credits
Provides in-depth understanding of prevention and education programming with an emphasis on evidence-based practices. Logic models are used to design programs.		
220	THERAPEU TECH IN MENTAL HEALTH	3 credits
Prerequisite: 120; corequisites: 121, 122. This course provides students with an understanding of interventions used with, and on behalf of, persons who suffer with severe and chronic mental disabilities. Students will learn and practice sensitivity and skill development to prepare them for pre-professional and entry-level social service positions in the mental health field.		
223	SOCIAL SERVICE TECHNIQUES III	3 credits
Prerequisite: 122. Corequisites: 172 or 273. Provides knowledge base for working with individuals in crisis. Students apply crisis theory to developmental and situational crises and practice crisis intervention techniques.		
230	COMMUNITY-BASED RESIDENTAL SERV	3 credits
Orientation to community-based residential services and role of community services technician in delivery of services to mentally disabled. Includes historical, social and legal forces in community-based services and practical aspects of operation of a residential facility.		
231	HABILITATION PROGRAMMING	2 credits
Prerequisite: 131. This course examines components of individualized plans, implementation of such plans, and legal issues. Content includes types of habilitation programming and the role of self-determination.		
233	BEHAVIOR SUPPORT	2 credits
Prerequisite: 131. This course examines the components of behavior support. Course content includes various types of behavior support programs and techniques.		
240	DRUG USE AND ABUSE	3 credits
Introduction to pharmacology of drugs of misuse; physiological factors of alcohol/drug-using behavior; effect of psychoactive drugs on the brain; intervention and treatment measures.		
251	COMMUN SERVICE SENIOR CITIZENS	3 credits
Prerequisite: 2260:150. A study of national and community resources for social service delivery to senior citizens. Specific agencies, program needs and senior citizens and resultant services.		
255	EFFECTIVE WORKPLACE RELATNSHPS	3 credits
This course focuses on self-evaluation and development of skills for successful interaction with clients/inmates, peers, supervisors, and colleagues in other public service systems.		
260	INTRODUCTION TO ADDICTION	3 credits

An overview of the continuum of use, abuse and dependency; theories of addiction; the impact of addiction on society; and the implications for professional practice.		
261	ADDICTION TREATMENT	4 credits
Prerequisite: 2260:260. Survey of treatment approaches used in treatment of persons with addictions. Special emphasis on MET, Solution-Focused Therapy, Twelve-Step Facilitation and Cognitive-Behavioral approaches. Critical ethical/legal issues will be covered.		
262	BASIC HELPING SKILLS	4 credits
Teaches micro skills through the use of didactic presentation, role play and videotaping; develops ability to give and receive feedback about effectiveness of helping others.		
263	GROUP PRINCIPLES IN ADDICTION	3 credits
Prerequisite: 260. Introduces group concepts and dynamics, explores issues in addiction that influence group treatment and provides experiential opportunity for students to understand roles in a group.		
264	ADDICTION & THE FAMILY	3 credits
Reviews theories and counseling techniques used in the assessment and treatment of the family system. Impact of addiction on child development, parenting, marital relationship, and other significant relationships will be explored.		
265	WOMEN & ADDICTION	3 credits
Exploration of the social, psychological, physical and family aspects of addiction in women.		
266	SOC SERV TECH CHILDREN & FAMILY	3 credits
Prerequisite: 122. Preparation for working with children individually and in their families. Content includes child development in relation to environmental factors, social policy concerns and helping interventions.		
267	ADDIC ASSESS & TREAT PLAN	3 credits
Prerequisite: 260. Overview of screening, diagnosis and assessment procedures in the addiction field, including review of the most commonly used testing instruments. Implication for treatment planning is explored.		
268	CO-OCCURRING DISORDERS	3 credits
Key concepts and evidence-based practices in the provision of services to people suffering from substance abuse as well as mental illness and behavioral disorders.		
269	CRIMINAL JUSTICE & ADDICTION	3 credits
An introduction to the problems that exist with the treatment of the alcohol/drug offenders and issues relating to their transition back to the community.		
270	RELAPSE PREVENTION	3 credits

		A study of the concepts, evidence-based practices and strategies for relapse prevention with addictive behaviors.
271	BEHAVIORAL ADDICTIONS	3 credits
		Introduction to understanding human behavior and physiological responses to compulsive behaviors other than dependencies on psychoactive chemicals. Several behavioral addictions will be explored.
273	CAREER ISSUES SOC SVC III	1 credits
		Prerequisite: 171; corequisite: 122. Prepares students for fieldwork and future employment. Topics include resume development, job interviews and search strategies, working in organizations, supervision, safety, professionalism, and licensure requirements.
275	THERAPEUTIC ACTIVITIES	3 credits
		Prerequisite: 150. Preparation for planning, adapting and implementing individual and group therapeutic activities to meet diverse psychological needs. Emphasizes program planning, motivational techniques and group work skills.
276	PRACT: THERAPEUTIC ACT	1 credits
		Prerequisite: 150. Corequisite: 275. Supervised 90-hour experience in long-term care facility observing, planning and providing therapeutic activities. Students practice program planning, documentation and group work skills.
277	CASE MGT-COMMUNITY SERVIC	3 credits
		Case by case study of Social Service delivery in six primary areas of Human Services. Emphasis on case management skills, documentation and ethics.
278	TECHNIQUES OF COMMUNITY WORK	4 credits
		Prerequisite: 2020:121 or 3300:111. For those intending to work in community organizations in the United States and for others desiring an understanding of technical community service roles. Covers such topics as ethics, liability issues, communication and problem solving skills, values clarification, stress management systems theory, and assertive behavior.
279	TECH EXP COMMUN&SOCIAL SERVICE	5 credits
		Prerequisite: 278 and permission. Individual placement in selected community and social service agencies for educationally supervised experience in community and social services technician position. Does not substitute for 7750:421 or 495.
281	RECRUIT & INTRVW OF VOLUNTEERS	3 credits
		Prerequisite: 280 or permission. To provide knowledge for recruitment and interviewing of persons seeking volunteer positions. Will cover writing of volunteer job descriptions, methods of recruitment, techniques of interviewing; concentration on interviewing skills.
285	SOCIAL SERVICES PRACTICUM	1-2 credits

Course Details (2280)

101	INTRODUCTION TO HOSPITALITY	3 credits
Explores the various segments of the hospitality industry and introduces the knowledge and skills required for success.		
120	SAFETY & SANITATION	2 credits
Introduction to food service sanitation, safety practices pertinent to hospitality manager. Emphasis on sanitation laws, rules, food microbiology, safe food handling, storage practices, accident prevention.		
121	FUNDAMENTALS OF FOOD PREP I	4 credits
Prerequisite or Corequisite: 121. Skills and basic knowledge of food preparation procedures in a laboratory situation.		
122	FUNDAMENTALS OF FOOD PREP II	4 credits
Prerequisites: 101, 120, 121. Continuation of 121. Food preparation techniques presented in laboratory situations for public consumption in a restaurant setting.		
160	WINE & BEVERAGE SERVICE	3 credits
Intensive examination of wine as related to hospitality industry. Emphasis on business practices. History and development of viticulture, enology.		
230	ADVANCED FOOD PREPARATION	4 credits
Prerequisites: 101 and 122. Lecture and demonstration followed by hands-on experience in the preparation of classical American dishes as well as cuisines and techniques from around the world.		
232	DINING ROOM SERVICE & TRAINING	3 credits
In-depth study of the styles of dining service, development of job descriptions, importance of courtesy, customer relations. Application of service techniques in restaurant environment.		
233	RESTAURANT OPERATIONS & MGMT	4 credits
Prerequisite: 122, 232 and 245 for restaurant management option. Additional prerequisite: 261 for culinary arts majors. Introduction to large quantity food service procedures with emphasis on sound principles of food handling service and sanitation in large quantity operations. Gourmet meals served in simulated restaurant atmosphere.		
237	INTERN: HOSPITALITY MANAGEMENT	2 credits
Prerequisite: permission. On/off campus observation/work experience integrated with academic instruction. Concepts applied to practical situations.		

240	SUPRVSN IN HOSPITALITY INDSTRY	3 credits
Prerequisite: 101. Identifies various components of the hotel and food service operations and the role of managing human resources efficiently and effectively		
243	FOOD EQUIPMENT&PLANT OPERATION	3 credits
Prerequisite: 120. Available food service equipment, its selection, use and care. Field trips taken to wholesale outlets and food service establishments to see food service equipment demonstrated and in operation.		
245	MENU, PURCHASING&COST CONTROL	4 credits
Prerequisites: 101, 2030:161 and 2420:211. Menu design and merchandising integrated with purchasing principles, specifications and receiving, as well as financial controls and procedures within the hospitality environment.		
250	FRONT OFFICE OPERATIONS	3 credits
Prerequisites: 2030:161, 2280:101, 2420:211. This course introduces the student to the functioning of the Front Office of a Hotel and expands student's knowledge of Hotel Operations.		
256	HOSPITALITY LAW	3 credits
Prerequisite: 101. Introduction to hotel, restaurant, travel law. Fundamental constitutional, statutory, administrative rules, regulations applicable to hospitality industry. Case study, problem-solving approaches applied to legal problems confronting hospitality executives.		
261	BAKING & CLASSICAL DESSERTS	4 credits
Prerequisite: 121. Techniques and production of quick breads, yeast products, cakes, cookies, specialty desserts and pies. Emphasis on equipment, formulas, ingredient selection and product quality evaluation.		
268	REVENUE CENTERS	3 credits
Prerequisite: 101. An in-depth examination of the sales producing divisions of the hotel organization. The rooms, banquet, food and beverage, and special departments as well as their interconnections are studied.		
278	HOSPITALITY INDUSTRY MARKETING	3 credits
Prerequisite: 101. Introduce various concepts of marketing, their application to the hospitality industry, and the key elements of a marketing plan.		
280	SPECIAL EVENTS MANAGMENT	3 credits
Prerequisites: 101, 232. Defines scope and segmentation of convention and group business markets and develops related marketing strategies.		
290	ST: HOSPITALITY MANAGEMENT	1-3 credits
(May be repeated for a total of four credits) Prerequisite: permission. Selected topics or subject areas of interest in food service management.		

Course Details (2290)

101	INTROD TO PARALEGAL STUDIES	3 credits
Covers the basics of paralegal studies emphasizing the fundamental concepts of the legal system. Includes overview of paralegal studies career and ethical considerations relative thereto.		
104	BASIC LEGAL RESEARCH & WRITING	3 credits
Prerequisite: 101. Will provide the student with basic research abilities necessary in law offices. Includes the use of law library tools (reporter systems, legal encyclopedias, codes, and computer).		
105	LAW OFFICE TECHNOLOGY	3 credits
Prerequisite: 101. Overview of software utilized in today's law office; including case management/trial litigations software. Stresses law-related internet applications and electronic case filings.		
106	BUSINESS ASSOCIATIONS	3 credits
Prerequisite: 101. Instructs students in different types of business entities, from sole proprietorships to corporations. Preparation of forms and necessary governmental filings will be stressed.		
108	REAL ESTATE TRANSACTIONS	3 credits
Prerequisite: 101. Acquaints students with basic real property law, including different types of deeds, ownerships, easements, and mortgages. Problems arising from sales agreements will be covered.		
110	TORT LAW	3 credits
Prerequisite: 101. Covers the traditional civil wrongs, from the plaintiff's and defendant's standpoints. Actual cases will be briefed and discussed. Stresses importance of preparation prior to trial.		
112	FAMILY LAW	3 credits
Prerequisite: 101. Covers antenuptial agreements, marriage, divorce, dissolutions, annulments, adoptions, juvenile law, artificial insemination, and paternity.		
118	PROBATE ADMINISTRATION	4 credits
Prerequisite: 101. Covers law necessary to draft and interpret wills, trusts. Includes administration of a typical estate within Probate Court. Touches on guardianship, commitment of mentally ill.		
204	ADVANCED LEGAL RESEARCH	3 credits
Prerequisite: 101; 104. Continuation of 104. Will especially stress importance of clear, concise legal writing. Students will write briefs, motions, and complaints as part of their endeavor.		
214	CIVIL PROCEDURE	3 credits

Prerequisite: 101. Covers aspects of legal assisting in different types of civil litigation. Includes Ohio Rules of Civil Procedure, preparation of complaints, answers, motions, basic trial preparation.

216 DEBTOR-CREDITOR RELATIONS 3 credits

Prerequisite: 101. Covers bankruptcy primarily, as well as collection methods and state law remedies.

218 ADVANCED PROBATE ADMINISTRATION 3 credits

Prerequisites: 101; 118. Covers guardianships, marriage licenses, living wills and advanced directives, adoptions, name changes, and the probate and tax issues of intestate and testate estates.

220 PARALEGAL INTERNSHIP 4 credits

Prerequisites: 101; 104. Must have completed first-year courses. Students are provided experience in law-related environment. Students work at placement and meet with the course instructor.

290 ST: LEGAL ASSISTING TECHNOLOGY 1-3 credits

Prerequisites: 101, 104 or permission. (May be repeated for a maximum of six credits.) Selected topics on subject areas of interest in Legal Assisting Technology.

297 INDP STUDY: LEGAL ASSISTING 3-5 credits

Prerequisite: 101. (May be repeated for a maximum of six credits.) Selected topics and special areas of study in Legal Assisting Technology.

Course Details (2420)

103	ESSENTIALS OF MANAGEMENT TECH	3 credits
Survey of management principles for business and other organizations. Emphasizes the basic management functions including planning, organizing, staffing, influencing, and control.		
104	INTROD TO BUSIN GLOBAL ENVIRON	3 credits
Survey of business emphasizing the global nature of business and including entrepreneurship concepts, form, marketing, management, human resources, financial resources and production.		
110	PRINCIPLES OF TRANSPORTATION	3 credits
Analysis of role of transportation in nation's economic development. Survey of historical development and economic aspects of rail, highway, water, air, and pipeline.		
117	SMALL BUSINESS DEVELOPMENT	3 credits
Prerequisite: 211 or permission. Introduction to small business and entrepreneurship: opportunities and qualifications for establishing, financing, operating and developing managerial policies and procedures for small business		
125	ESSENTIALS OF PERSONAL FINANCE	3 credits
Consumer decision making including credit and budgets, time value of money, major purchases, insurance, investments, tax planning, retirement and estate planning.		
140	KEYBOARDING	2 credits
Fundamentals in the operation of the keyboard; application emphasis on individual student needs such as resumes, application letters and forms, term reports, abstracting, etc.		
170	APPLIED MATH FOR BUSINESS	3 credits
Prerequisite: Completion of 2010:052 or 057 with a grade of C or better or placement test. Mathematics of business including retail pricing, simple and compound interest, discounts, mortgages, payroll, annuities, depreciation, inventory, insurance, taxes, stock and bonds, and basic statistics.		
171	BUSINESS CALCULATIONS	3 credits
Applied fundamental mathematical principles within the business setting. Electronic calculator proficiency will be developed through repeated problem-solving applications using these principles.		
202	ELEMENTS OF HUMAN RESOURC MGMT	3 credits

Prerequisite: 103 or permission. Provides students with an overview of human resource management functions. Includes planning, EEO/AA, selection, development, legal environment, compensation, labor relations, appraisal systems and career planning.

211 BASIC ACCOUNTING I 3 credits

Accounting for sole proprietorships operating as service and merchandising concerns. Introduction to financial statements. Includes handling of cash, accounts receivable, inventories, plant/equipment, and payroll.

212 BASIC ACCOUNTING II 3 credits

Prerequisite: 211. Accounting as it applies to partnerships and corporations. Includes stocks, bonds, cash flows, financial statement analysis, and specialized accounting software.

213 ESSENTIALS OF MGMT ACCOUNTING 3 credits

Prerequisite: 211. Study of the interpretation and use of accounting data by management in decision making and the planning and controlling of business activities.

214 ESSENTIALS OF INTERMED ACCTG 3 credits

Prerequisite: 212. Study of development of financial accounting theory and its application to problems of financial statement generation, account valuation, analysis of working capital, and determination of net income.

215 COMP APPL FOR ACCT CYCLES 3 credits

Prerequisites: 212, 213, 2540:270. Develops the skills of computer accounting as used in today's marketplace through hands on experience with general ledger accounting software.

216 SURVEY OF COST ACCOUNTING 3 credits

Prerequisite: 213. Provides student with conceptual understanding of how accounting information is developed and used for product costing, decision making and managerial planning and control.

217 SURVEY OF TAXATION 4 credits

Survey course of basic tax concepts, research, planning, and preparation of returns for individuals, partnerships and corporations. Federal, state and local taxes are discussed.

218 AUTOMATED BOOKKEEPING 2 credits

Corequisite: 2420:212. Provides experience with accounting software packages to include the processing of general ledger, accounts receivable, accounts payable, and payroll transactions.

220 APPLIED ACCOUNTING 3 credits

Prerequisites: 212, 213, 2540:270. An applied orientation focusing on all accounting functions through adjusted trial balance and basic payroll skills. Emphasis on skills required for the Certified Bookkeeping designation.

227	ENTREPRENEURSHIP PROJECTS	3 credits
Prerequisite: 103, 104, 117, 212, 243, 2540:270. Requires the student to research, design, and complete a comprehensive business plan which will become the blueprint for a new or existing business.		
243	SURVEY IN FINANCE	3 credits
Prerequisites: 170 and 211. Survey of field including instruments, procedures, practices and institutions. Emphasis on basic principles.		
245	BUSINESS MGMT ACCTG INTERNSHIP	3 credits
Prerequisites: 212 and 213 or 215 and 216. An accounting field experience exposing the student to the actual accounting environment and general workplace.		
246	BUSINESS MANAGMENT INTERNSHIP	3 credits
Prerequisites: 32 credits completed, including: 103, 104, 212, 280, 2040:240, 6300:201. A management field experience exposing the student to the actual management environment and general workplace.		
250	PROBLEMS IN BUSINESS MGMT	3 credits
Prerequisites: 103, 104, 212, 243, 2520:101, 2540:270. Capstone course studies the development of solutions and the formulation of policies to solve business problems, emphasizes case studies, group projects, oral and written presentations.		
263	PROF COMMUNCTN & PRESENTATIONS	3 credits
Prerequisite or corequisite: 2020:121 or 3300:111. Application of the principles of communication in speeches, business presentations, group discussions, and business documents.		
270	BUSINESS SOFTWARE APPLICATIONS	4 credits
Prerequisite: 2440:105; Wayne College students - 2440:125, 2540:241, 253. Use of business application software and critical thinking skills to solve business problems. Word processing, spreadsheets, database, presentation software, integration of applications, and the Internet.		
271	DESKTOP PUBLISHING	3 credits
Desktop publishing software used to create printed materials such as newsletters, brochures, and forms. Course addresses design/layout decision and editing skills.		
272	MICROSOFT POWERPOINT	2 credits
Introduction to the basic principles of preparation, design, and organization necessary to produce exciting and effective PowerPoint presentations using Microsoft PowerPoint.		
280	ESSENTIALS OF BUSINESS LAW	3 credits
History of the law and the judicial system, torts and criminal law affecting business, contracts with emphasis on sales under the UCC, and commercial paper.		
290	ST: BUSINESS MANAGEMENT TECHN	1-3 credits

(May be repeated for a total of four credits) Prerequisite: permission. Selected topics or subject areas of interest in business management technology.

300 SUPERVISION IN A TECHNICAL ENV 3 credits

Competencies required for successful transition from individual contributor to supervisor. Emphasis on working effectively with others and self-development as a leader.

301 INFORMATION DESIGN 3 credits

Prerequisites: 2020:121 and 222 or 3300:111 and 112 or equivalent. Principles of visual rhetoric and practice in communicating with text and graphics. Examines the role of design in a variety of workplace communication documents.

302 ETHICAL ISSUES IN THE WRKPLACE 3 credits

Prerequisites: 2020:121 and 222 or 3300:111 and 112 or equivalent. Ethical principles (liability, safety, quality, honesty, confidentiality) in workplace communication. Case studies and projects explore global, legal, and technological issues affecting employee interaction.

310 LDRSHP PRIN & PRAC FOR TEC ORG 3 credits

Prerequisite: 300 or permission. Contemporary perspectives and issues in leadership and supervision. Development of effective leadership characteristics.

311 COMM SRV & LDRSHP IN A GLO CON 3 credits

Prerequisite: 300 or permission. Theory and best practices in community service and leadership in local, national and global settings. Identify leadership opportunities for future contributions.

401 LEADING PROJ TEAMS IN TECH ORG 3 credits

Prerequisite: 310. Examines and applies the operational and human aspects of project team management from conception to completion.

402 ASSESSING & IMPROVING TECH ORG 3 credits

Prerequisites: 3470:250 or 3470:260; and 2420:310. Methods for conducting business process assessments and evaluating results in technical organizations/settings.

420 HUMAN CAPITAL DEV FOR TECH ORG 3 credits

Prerequisite: 310. Overview of current theories and best practices in human capital development.

421 SEN SEMINAR IN ORG SUPERVISION 3 credits

Prerequisite: 402. Integration and application of professional knowledge, skills, and technologies to organizational issues.

Course Details (2430)

105	REAL ESTATE PRINCIPLES	3 credits
Introduction to real estate as a profession, process, product and measurement of its productivity. The student is responsible for reading and discussions relative to real estate and the American system.		
185	REAL ESTATE LAW	3 credits
Prerequisite: 105. Contents of contemporary real estate law. The student is responsible for readings covering units on estates, property rights, license laws, contracts, deeds, mortgages, civil rights, and zoning.		
245	REAL ESTATE FINANCE	2 credits
Prerequisites: 105, 185. Study of contents of contemporary real estate finance. Units on reading and discussion include mortgage instruments, financial institutions, mortgage market, government influence on finance, and risk analysis and mortgage lending.		
255	VALUATION OF RESID PROPERTY	2 credits
Prerequisites: 105, 185. Methods used to estimate value in residential property including cost of reproduction, market data and income approach. Student prepares an appraisal on a residential property.		
265	REAL ESTATE BROKERAGE	2 credits
Prerequisites: 105, 185 or permission. Application of management functions of planning, organizing, directing, controlling and staffing to real estate brokerage office. Student activities include reading, discussion and research.		
275	SPEC PRO: REAL ESTATE	2 credits
Prerequisites: 105, 185, 245, 255, and 265. Student demonstrates knowledge of real estate by preparing a written report covering brokerage process as it relates to a parcel of property.		

Course Details (2440)

105	INTRO: COMPTR & APPL SOFTWARE	3 credits
Overview of basic computer concepts, electronic mail and Internet terminologies. Introductory-level instruction and hands-on experience in word processing, spreadsheet, and presentation software.		
121	INTROD OF LOGIC/PROGRAMMING	3 credits
Prerequisites: 105 or pass placement test. An introduction to business problem solving using computer-based solutions. Topics include structured design, documentation and modularity. Includes a component of hands-on programming.		
125	SPREADSHEET SOFTWARE	2 credits
Prerequisites: 105 or pass placement test. Emphasizes mastery of spreadsheet applications using Excel.		
140	INTERNET TOOLS	3 credits
Prerequisite: 105 or placement exam. Students will learn to create web pages using HTML and enhance their documents by including hyperlinks, tables, forms, frames and images in their HTML code.		
141	WEB SITE ADMINISTRATION	3 credits
Prerequisites: 105 or pass placement test. Provides step-by-step Web site administration guides such as selecting software and hardware, dealing with ISPs, domain name registration, structuring and updating content, analyzing security and legal issues, and implementing marketing strategies.		
145	INTRODUCTION TO UNIX/LINUX	3 credits
Prerequisite: 105 or pass placement exam (CISBR). This course explores the vital functions that an operating system performs. A multi-user operating system is studied from a functional and hands-on approach.		
160	JAVA PROGRAMMING	3 credits
Prerequisite: 121. Course introduces the JAVA programming language. Programming techniques are demonstrated through the coding, testing and debugging of JAVA applications and applets.		
170	VISUAL BASIC	3 credits
Prerequisites: 121. Course includes hands-on experience with Visual BASIC, design of Graphical User Interface (GUI) applications, event-driven programming, linking of windows, and accessing relational databases.		
175	MICROCOMPUTER APPLIC SUPPORT	3 credits

Prerequisite: 105 or pass placement test. This course is a continuation of Software Fundamentals. In-depth use of word processing and spreadsheet software packages.

180 DATABASE CONCEPTS 3 credits

Prerequisites: 121 and 145. Overview of models and functions of Database Management Systems. Data definition and data manipulation in the relational model using SQL. Introduction to database design.

201 NETWORKING BASICS 3 credits

Prerequisites: 105 or placement exam. The introductory course in networking. It includes study of the common network protocols, structures, and models. Basic router and switch configurations are introduced.

202 ROUTER & ROUTING BASICS 3 credits

Prerequisite: 201. The second course to networking. It covers basic router configuration as well as routed and routing protocols.

203 SWITCHING BASICS AND WIRELESS 3 credits

Prerequisite: 201. The third of four courses leading to the CCNA certification. The course covers switching basics and basic wireless networking.

204 WAN TECHNOLOGIES 3 credits

Prerequisite: 202,203. The fourth of four courses leading to the CCNA certification. Topics covered include IP services and Wide Area Network theory and design.

210 CLIENT/SERVER PROGRAMMING 3 credits

Prerequisite: 180. Introduces student to client/server programming. Includes hands-on experience using a Rapid Application Development (RAD) tool to show integration of database and program development.

211 INTERACTIVE WEB PROGRAMMING 3 credits

Prerequisites: 121, 140. Provides students with instruction on interactive Web programming using HTML, Common Gateway Interface (CGI) using Perl and JavaScript. Programming languages may change based on current industry practice.

212 MULTIMED&INTERACT WEB ELEMENTS 3 credits

Prerequisite: 140. Reviews and demonstrates web tools and techniques like RealAudio, Shockwave, QuickTime, video conferencing and other dynamic graphical elements to enhance Web-based communication. Multimedia software may change to reflect current technology.

234 BUSINESS PROGRAMMING 3 credits

Prerequisite: 180. Course emphasizes programming and documentation skills to solve business problems, Topics include business application programming, file handling, and advanced data manipulation.

240 COMPUTER INFO SYSTEMS INTRNSHP 3 credits

281	MICROSOFT NETWORKING I	3 credits
Prerequisite: 2440: 105. Provides the knowledge and skills necessary to manage and maintain Windows in the enterprise. This course also helps prepare the student to pass the MCTS exam.		
282	MICROSOFT NETWORKING II	3 credits
Prerequisite: 2400: 281. Provides the knowledge and skills necessary to manage and maintain computers with the Windows Server 2008 Network Operating System. This course will also help prepare you to pass the MCTS Exam.		
283	MICROSOFT NETWORKING III	3 credits
Prerequisite: 2440: 282. Provides the knowledge and skills necessary to manage and maintain an active directory service hosted by the Server 2008 Network Operating System. This course also helps prepare the student to pass the MCTS Exam.		
284	MICROSOFT NETWORKING IV	3 credits
Prerequisites: 2440: 283 or passing score on the 70-640 Microsoft Certification Exam. This course will provide you with the knowledge and skill necessary to install, configure, manage and maintain the server services provided with Server 2008.		
290	ST: COMPUTER INFO SYSTEMS	1-5 credits
Prerequisite: permission. Selected topics or subject areas of interest in computer information systems.		
301	ADVANCED ROUTING	4 credits
Prerequisites: Must have a current CCNA certification and be able to program a router to the CCNA standards. Requires permission. OR Must have successfully completed all four Cisco Networking Academy CCNA courses from an accredited academy - 2440:201, 202, 203, 204 and compliance with repeat policy, or permission. This course focuses on advanced routing protocols and features and complies with the content of the Cisco Academy Cisco Certified Network Profession (CCNP) Advanced Routing course.		
302	REMOTE ACCESS	4 credits
Prerequisites: Must have a current CCNA certification and be able to program a router to the CCNA standards. Requires permission. Or 2440:201, 202, 203, 204. This course focuses on remote access protocols, features, and configuration and complies with the content of the Cisco Academy Cisco Certified Network Profession (CCNP) Remote Access course.		
306	ETHICS & LAW IN IT	3 credits
Prerequisite: Junior/Senior standing. This course is designed to introduce the student to the central issues concerning intellectual property, privacy, and copyright law as it pertains to the development and distribution of software systems.		
310	WIRELESS NETWORKING	3 credits
Prerequisite: 204 and compliance with repeat policy, or permission. . This course provides students with various wireless networking technologies.		

311	CLIENT/SERVER PROGRAMMING II	3 credits
Prerequisite: 2440:210. Discusses tools for client-server programming, distributed computing, socket programming, and security implementation.		
321	SERVER-SIDE SCRIPTING	3 credits
Prerequisites: 2440: 121 & 140. This course provides students with instruction on using server-side scripting languages to develop interactive client/server web-based applications.		
338	UNIX/LINUX SYSTEM ADMIN	3 credits
Prerequisites: 145 and compliance with the repeat policy, or permission. This course provides students with the necessary knowledge and skills to perform basic system administration tasks on a network operating system.		
360	JAVA PROGRAMMING II	3 credits
Prerequisite: 2440:160. This course covers advanced object-oriented programming concepts, GUI programming, web application programming, network and security programming, JavaBeans and explores aggregations.		
365	E-BUSINESS APP DEVELOPMENT	3 credits
Prerequisites: 2440 211 & 321. This course covers web programming techniques to develop Web-based e-business solution and covers e-business models and business issues.		
370	VISUAL BASIC PROGRAMMING II	3 credits
Prerequisite: 2440: 370. This course explores object-oriented programming through Visual Basic program development at a more advanced level, with more attention to business applications.		
388	UNIX/LINUX NETWORKING ADMIN	3 credits
Prerequisite: 338. This course provides students with the necessary knowledge and skills to perform advanced system administration tasks on a network operating system.		
401	MULTILAYER SWITCHING	4 credits
Prerequisites: Must have a current CCNA certification and be able to program a router to the CCNA standards. Requires permission. OR Must have successfully completed all four Cisco Networking Academy CCNA courses from an accredited academy (2440:201, 202, 203, 204) and compliance with the repeat policy, or permission. This course focuses on switching protocols and features. This course complies with the content of the Cisco Academy Cisco Certified Network Profession (CCNP) Switching course.		
402	TROUBLESHTG CMLPX IP-BAS NETWK	4 credits
Prerequisites: 2440:301 and 401and compliance with the repeat policy, or permission.. This course focuses on maintaining and troubleshooting complex IP-based networks. It complies with the content of the Cisco Academy Cisco Certified Network Profession (CCNP) Troubleshooting course.		
410	NETWORK AUTHENTIC & SECURITY	3 credits

Prerequisite: 204 WAN Technologies and compliance with the repeat policy, or permission.. This course focuses on network security issues related to conducting business over the Internet, including authentication, authorization, and firewalls. Security issues have evolved from server-centric security to network-level security. This course will allow students to discover the extent of the concerns and current solutions.

420 VOICE, DATA, AND VIDEO 3 credits

Prerequisite: 204 and compliance with the repeat policy, or permission. This course focuses on network issues related to the integration of voice, data, and video over the same network media and equipment.

430 NETWORK MONITORING & MGMT 3 credits

Prerequisite: 204 and compliance with the repeat policy, or permission. This course provides students the basic theory and practical application of network monitoring and management skills.

451 SENIOR PROGRAMMING PROJECTS 3 credits

Prerequisite: Senior Standing. This course is the capstone course where senior students will apply learned material by simulating a realistic work environment.

452 CIS PRACTICUM 3 credits

Prerequisite: Permission. Provides students with experience in computer information systems operation and maintenance in the workplace. Practicum must be relevant to the specialization area.

456 C++ PROGRAMMING II 3 credits

Prerequisite: 256. This course explores object-oriented programming through C++ program development at a more advanced level. Also considers Visual programming and connection to databases.

465 DATA COMM & NETWORKING 3 credits

Prerequisite: Junior/Senior Standing. Introduces students to business data communication and networking concepts. The OSI model, various network configuration and popular industry communication protocols are explored at an advanced level.

470 DATABASE MANAGEMENT II 3 credits

Prerequisite: 2440: 180. Covers advanced database design, definition, manipulation, and administration tasks with emphasis placed on the relational model, the object-oriented model, and client/server systems.

480 CT: COMPUTER INFO SYSTEMS 3 credits

Prerequisite: permission. Seminar in topics of current interest in information technology or special individual topics in information technology.

490 CIS SENIOR PROJECTS 3 credits

Prerequisites: 2440:338; and at least two of: 2440:301, 401, 310, or 402 and compliance with the repeat policy, or permission. This course is used to research, document and implement current and advanced IT topics beyond the scope of what was learned in the prior CIS courses.

Course Details (2520)

101	ESSENTIALS OF MARKETING TECH	3 credits
Survey of marketing including its environment, buyer behavior, target market selection, product decision, distribution decisions, promotion decisions, pricing decisions and marketing management.		
202	RETAILING FUNDAMENTALS	3 credits
Presents basic principles and practices of retailing operations, including site selection, buying, pricing and promotion practices. Use is made of extensive projects and investigations and actual retail operations.		
203	PRINCIPLES OF ADVERTISING	3 credits
Prerequisite: 101 or 6600:300. Focuses on principles and functions of advertising, creation and evaluation of advertisements, research of target market, message selection strategy, and media placement options.		
204	SERVICES MARKETING	3 credits
Prerequisites: 203 and 212. Corequisites: 202. Focuses on quality customer service and its role in marketing. Evaluation of customers' needs and expectations, interpretation of customer data and creation of service strategies.		
206	RETAIL PROMOTION & ADVERTISING	3 credits
Prerequisite: 202 or permission. Studio course in retail display and promotion techniques. Window, interior and point of purchase categories; principles of design as applied to commercial art; function in visual design, elements of design, color theory, lettering, printing process, layout to camera-ready art.		
212	PRINCIPLES OF SALES	3 credits
Prerequisite: 101 or permission. Study of basic principles of selling, emphasizing individual demonstrations and sales projects. Includes review of sales function as integral part of marketing process.		
221	ADVERTISING CAMPAIGN	3 credits
Prerequisite: 203. Student will prepare an advertising campaign for a product assigned by the AAF. The campaign may be entered in the AAF national contest.		
240	MARKETING INTERNSHIP	3 credits
Prerequisites: 101, 203, 202, 212. On-the-job work experience in a marketing environment in which students apply learned skills and concepts to practical business situations. Periodic reports and projects required as appropriate.		
254	SALES MANAGEMENT TECHNOLOGY	3 credits

Prerequisite: 212 and 2030:151. Process relating to the formulation, implementation, and control of a strategic sales program. Students will learn how to select, evaluate, and motivate a sales force.

290

ST: MARKETING & SALES

1-3 credits

(May be repeated for a total of four credits) Prerequisite: permission. Selected topics or subject areas of interest in sales and merchandising.

Course Details (2540)

119	BUSINESS ENGLISH	3 credits
Prerequisite: placement test. Fundamentals of English language with emphasis on grammatical correctness, acceptable usage, spelling and punctuation. Limited writing primarily involves choice of precise words and effective sentence structure with some attention to paragraph development.		
121	INTROD TO OFFICE PROCEDURES	3 credits
Introduction to concepts regarding role of office worker, human relations, communications, productivity, reference materials, technological advances in processing information and employment opportunities.		
123	MICROSOFT OUTLOOK	2 credits
Prerequisite: placement by adviser. An introduction to Microsoft Outlook software. Students will learn how to use Outlook for email, contacts, calendaring, making appointments, and instant messaging.		
136	SPEECH RECOGNITION TECHNOLOGY	2 credits
Prerequisite: placement by adviser. Course will present the features of speech-recognition software to assist students to increase their productivity at computer tasks while improving their communication skills.		
138	PROJECT MANAGMENT	2 credits
Prerequisite: placement by adviser. Introductory course that examines elements of projects and project management terminology. Also provides an understanding of Microsoft Project software for managing and evaluating projects.		
143	MICROSOFT WORD-BEGINNING	2 credits
Introduction to word processing software for non-Office Administration majors. Training on personal computers for personal and business communications using Microsoft Word software.		
144	MICROSOFT WORD - ADVANCED	2 credits
Prerequisite: 143 or permission. Intermediate and advanced skills of Microsoft Word to include tables, importation of spreadsheets, outlines, advanced file management, macros, merges, labels and graphics.		
243	INTERNSHIP: OFFICE ADMINISTRN	2-3 credits
Prerequisites: 119; 121; 129; 253; 263; 270; and 281. Work experience in an office environment related to the student's degree major. Application of office administration skills/knowledge.		
253	ADVANCED WORD PROCESSING	3 credits
Prerequisites: 151; Wayne College students: 2540:151 or 144. To increase student's ability to produce office documents on computers. Minimum requirement: 50 wpm with maximum of 5 errors for 5 minutes.		

256	MEDICAL OFFICE PROCEDURES	3 credits
Prerequisite: 2740:120. Simulates a professional medical office which "employs" the student to perform office administration duties and manage office information and finances on specialized computer software.		
279	LEGAL OFFICE PROCEDURES	4 credits
Prerequisite: 2540:121, 144. Provides an understanding of various facets of the law, when and how to use documents, important legal procedures and typical office routine.		
282	MEDICAL MACHINE TRANSCRIPTION	3 credits
Prerequisite: 2540:256. Introduction to medical terminology. Emphasis on meaning, pronunciation, spelling and application of common medical terms, abbreviations, stems and suffixes as related to the human body in computerized transcription. Speed, accuracy, and proofreading skills emphasized.		
284	OFFICE NURSING TECHNIQUES I	2 credits
Prerequisite or corequisite: 2740:120. Provides theory and practice in nursing duties most often performed in a physician's and dentist's office. These include temperature, pulse and respiration reading; and taking blood pressure.		
289	CAREER DVLPMNT FOR BUS PROFESS	3 credits
Fundamentals of job search technique, professional image development and personal and interpersonal dynamics within the business environment.		
290	ST: SECRETARIAL SCIENCE	0.5-3 credits
(May be repeated for a total of four credits) Prerequisite: permission. Selected topics or subject areas of interest in office administration.		

Course Details (2740)

120	MEDICAL TERMINOLOGY	3 credits
Study of language used in medicine.		
121	STUDY OF DISEASE PROCESSES	3 credits
Prerequisite: 120. A study of human disease, the disease process, and a review of medical terminology.		
122	EMERGENCY RESPONDER I	1 credits
Theory and practice in recognition and response to emergencies such as breathing difficulty, cardiac arrest, stroke, bleeding, wound care, musculoskeletal injuries, burns, and poisonings.		
126	ADMIN MEDICAL ASSISTING I	4 credits
Theory and practice in administrative competencies such as legal and ethical concepts, professionalism, telephone skills, scheduling and managing appointments, organizing/filing the patient's medical record.		
127	ADMIN MEDICAL ASSISTING II	4 credits
Theory and practice in competencies including financial administration utilizing computerized billing software program. Posting, encounter forms, claims, statements, and aging of accounts will be generated.		
128	BASIC PROCEDURAL CODING	3 credits
Students will learn how to convert medical procedure language into standard Current Procedural Terminology (CPT) and the Health Care Financing Administration Common Procedure Coding System (HCPCS) which are utilized for healthcare reimbursement.		
129	BASIC DIAGNOSTIC CODING	3 credits
This class focuses on converting the diagnostic language learned in Medical Terminology into industry standard character strings for purposes of reimbursement? ICD-9-CM codes.		
135	CLINICAL MEDICAL ASSISTING I	4 credits
Introduction to medical laboratory, theories and procedures essential for a medical assistant's career.		
228	MEDICAL INSURANCE	3 credits
Prerequisites: 120, 128, 129. Theory and practice in billing and collecting for medical services.		
230	BASIC PHARMACOLOGY	3 credits
Overview of drugs used in a medical setting		

235	CLINICAL MEDICAL ASSISTING II	4 credits
Prerequisites: 135. Advanced medical laboratory theories and practices essential for a medical assistant's career.		
242	MEDICAL TRANSCRIPTION II	3 credits
Prerequisites: 2540:119, 151; 120, 240. This course is an advanced medical transcription course. Emphasis will be placed on development of accuracy, speed, and medical knowledge for transcription of medical documents.		
245	MEDICAL EXTERNSHIP	4 credits
Prerequisites: permission from Medical Assisting Program Director and 2.0 accumulative GPA. A seminar course including 200 hours of clinical experience in ambulatory medicine.		
246	MEDICAL ASSISTING PRACTICUM	4 credits
Prerequisites: 126, 127, 135, 235, 230, 2780:106 and 107. This course for Medical Assistants includes 200 hours of practicum experience in ambulatory medicine where the student can perform administrative/clinical procedures with actual patients.		
290	ST: MEDICAL ASSISTING	1-2 credits
Prerequisite: permission. Selected topics or workshops of interest in medical assisting technology.		

Course Details (2760)

141	ANATOMY & POSITIONING I	3 credits
Prerequisites: 2780:106, 107 and admission to the program. Radiographic anatomy and positioning of skeletal systems, including introductory cross-sectional anatomy. Identification of correct & incorrect positioning including remedies.		
142	ANATOMY & POSITIONING II	3 credits
Prerequisite: 141. Radiographic anatomy and positioning of various body systems in all planes, including cross-sectional anatomy. Identification of correct & incorrect positioning, including remedies.		
151	METHODS OF PATIENT CARE I	2 credits
Prerequisite: Admission to the program. Covers basic radiologic patient care and professionalism issues. Includes surgical aseptic training for performing radiographic images in the operating room.		
152	METHODS OF PATIENT CARE II	1 credits
Prerequisite: 151. Addresses patient care considerations for medical emergencies, patients receiving contrast media, alternative medical treatments. Overview of pharmacology and drug administration.		
161	RADIOLOGIC PHYSICS & PRINCPL I	3 credits
Prerequisites: 2780:106, 107 and Admission to the program. Orientation to radiologic sciences. Introduction to systems of measurement, physics, electromagnetism, and components of the x-ray tube. Also includes electricity, radiation physics, and radiation protection.		
162	RADIOLOGIC PHYSICS & PRINCP II	3 credits
Sequential. Prerequisite: 161. Discussion of radiologic factors involved in producing quality radiographs. Review of various radiographic components and their influences on photographic technique. Includes quality assurance testing.		
171	CLINIC CLASS I	1 credits
Prerequisite: Admission to the program. Corequisite: 181. Review of the clinical site-specific radiographic positioning of the skeletal system. Also includes mobile & surgical radiography.		
172	CLINIC CLASS II	1 credits
Prerequisite: 171. Corequisite: 182. Review of the clinical site-specific radiographic positioning of various body systems. Includes mobile & surgical radiography.		
181	CLINICAL I	3 credits

Prerequisite: Admission to the program. Corequisite: 171. Hands-on application of didactic anatomy & positioning lessons in learning how to image the skeletal system. Includes mobile & surgical radiography.		
182	CLINICAL II	3 credits
Prerequisite: 181. Corequisite: 172. Hands-on application of didactic anatomy & positioning lessons in learning how to image the various body systems. Includes mobile & surgical radiography.		
192	RADIOBIOLOGY	2 credits
Prerequisite: 161. Corequisite: 162. History and development of federal and state radiation standards. Identifying natural vs. artificial radiation sources. Includes applications of diagnostic imaging and therapeutic radiation modalities.		
221	CLINICAL EXPERIENCE	0 credits
Prerequisite: admission to the Radiologic Technology program. Off-campus clinical course. May be repeated as needed.		
252	IMAGING OBSTACLES AND SOLUTION	2 credits
Prerequisite: 142. Introduction problem solving skills, using case studies and role-playing situations. Includes comprehensive image analysis of proper technique, positioning, & the use of radiation protection principles.		
261	RADIOLOGIC PHYSICS & PRIN III	3 credits
Prerequisite: 162. Review of radiation physics and radiographic principles that are included with advanced imaging concepts, and radiation protection techniques for both the patient and the radiographer.		
262	A&P REGISTRY REVIEW	2 credits
Prerequisite: 271. Comprehensive review of anatomical structures and positioning to prepare for the ARRT Registry examination. A global perspective on positioning, using critical thinking skills.		
271	SPECIAL IMAGING I	3 credits
Prerequisite: 142. Review of anatomy and advanced radiologic procedures for the following anatomical systems: Cardiac & Circulatory System, Respiratory & Lymphatic Systems, GI System, & Skeletal Articulations.		
272	SPECIAL IMAGING II	3 credits
Prerequisite: 271. Review of anatomy and advanced procedures for the following anatomical systems: Genitourinary System, Nervous System, Muscular System, and computer based imaging.		
281	CLINICAL III	4 credits
Prerequisite: 182. Competency level skills are refined radiographing the vertebral column, skull, facial bones, surgical & mobile Radiography, special procedures, and other infrequently seen radiologic procedures.		

282	CLINICAL IV	4 credits
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Prerequisite: 281. Competency level skills are refined in all radiologic areas.

291	PATHOPHYSIOLOGY	2 credits
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Prerequisite: 142. Review of disease processes of the various body systems related to the effect pathology produces on radiographic images. Extensive discussion of optimum techniques used.

292	CROSS SECTIONAL ANATOMY	2 credits
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Prerequisite: 271. Reorientation of anatomical structures and their relationships to axial, coronal, and sagittal planes. These structures are then identified on cadaver, CT, and MRI images.

Course Details (2770)

100	INTRO: SURGICAL TECHNOLOGY	4 credits
Prerequisite: admission to the program. Study of basic principles which underlie patient care in the operating room. Role of operating room technician and legal and ethical responsibilities defined.		
221	SURGICAL TECHNLOGY PROCEDURE I	4 credits
Prerequisite: Admission to the program. Corequisite: 100. Covers principles and practices of surgical asepsis, surgical patients, procedures, maintenance of equipment and materials, immediate postoperative responsibilities and emergency situations in the operating room.		
222	SURGICAL TECHNLOGY PROCEDURE II	4 credits
Prerequisite: 221. Corequisite: 232. Principles of surgical asepsis, surgical patients, surgical procedures, maintenance of equipment and materials, immediate postoperative responsibilities and emergency situations in the operating room.		
231	CLINICAL APPLICATION I	2 credits
Prerequisite: Formal admission to the Surgical Assisting Technology Program. Corequisites: 100 and 121. Student assigned to surgical service of affiliated hospitals. Emphasis on aseptic techniques and skills associated with their implementation.		
232	CLINICAL APPLICATION II	5 credits
Prerequisite: 131; Corequisite: 222. Student assigned to surgical service of affiliated hospitals. Emphasis on "scrubbing" on general surgery and gynecology procedures.		
233	CLINICAL APPLICATION III	5 credits
Prerequisites: 232 and 222. Student assigned to surgical service of affiliated hospitals. Emphasis on "scrubbing" in the specialty areas.		
248	SURGICAL ANATOMY I	3 credits
Prerequisites: 2740:120 and 2780:107. Corequisite: 100. Emphasis on human anatomy and understanding the body in its three dimensions and the relationships of parts to one another in the various surgical specialties.		
249	SURGICAL ANATOMY II	3 credits
Prerequisite: 248. Emphasis on human anatomy and understanding the body in its three-dimensions and the relationships of parts to one another in the various surgical specialties.		
290	ST: SURGICAL ASSISTING	1-2 credits

Prerequisite: permission. Selected topics or workshops of interest in surgical assisting technology.

Course Details (2780)

102	OVERVIEW OF SIMULATION HLTHCAR	4 credits
An overview of the use of simulation technology in healthcare education: simulation design, development, implementation and evaluation. Department consent is needed		
106	ANAT & PHYS FOR ALLIED HLTH I	3 credits
Introduction to the study of human structure and function. No laboratory.		
107	ANAT & PHY FOR ALLIED HLTH II	3 credits
Prerequisite: 106. Introduction to the study of human structure and function. No laboratory.		
201	SIMULATION TECH BASIC REPAIR	4 credits
Prerequisites: 2780 102, 2440 247, 2740 121		
290	ST: ALLIED HEALTH	1-2 credits
(May be repeated for a total of four credits) Prerequisite: permission. Selected topics or subject areas of interest in allied health.		

Course Details (2790)

100	CONCEPTS IN RESPIR THERAPY	3 credits
Prerequisite: 2030:161. Introductory concepts regarding the practice and application of the concepts employed in respiratory therapy, including career information and equipment. (lecture/discussion).		
210	RESPIRATORY THERAPY PROCED I	3 credits
Prerequisites: 100, 2740:120, 2780:106 or 3100:200, 201. Application of oxygen and aerosol therapy equipment. Lecture/laboratory.		
215	RESPIRATORY THERAPY PHARMACLGY	3 credits
Prerequisites: 100, 3150:110, 111. Pharmacologic actions and effects of medications delivered by respiratory therapists, and routes of administration.		
290	ST: RESPIRATORY CARE	1-3 credits
(May be repeated for a maximum of three credits) Prerequisite: permission. Selected topics or subject areas of interest in respiratory therapy technology.		
301	CARDIOPULMONARY ASSESSMNT TECH	2 credits
Prerequisites: 2780:107 or 3100:202, 203. Overall patient assessment, with concentration on the cardiopulmonary systems. Overview of common illness and related clinical manifestations. Lecture/laboratory.		
302	CARDIOPULMNY ANATOMY & PHYSLGY	3 credits
Prerequisites: 210, 2780:107 or 3100:202, 203; Corequisite: 2790:301. Study of normal anatomy and physiology of cardiopulmonary systems.		
303	CARDIOPULMONARY PATHOLOGY	4 credits
Prerequisites: 301, 302. Discussion of diseases of the heart and lungs, and their relationship to the role of the respiratory therapist.		
311	RESPIRATORY THERAPY PROCED II	3 credits
Prerequisites: 210, 2780:107 or 3100:202, 203. Airway Care and Lung Inflation Techniques. Lecture/laboratory.		
312	DIAGNOSTICS I	3 credits
Prerequisite: 210; corequisites: 301, 302, 311. Bedside screening studies for the evaluation of cardiopulmonary diseases. Lecture/laboratory.		

313	DIAGNOSTICS II	3 credits
Prerequisites: 311, 312; corequisite: 303. Laboratory diagnostic studies for the evaluation of cardiopulmonary diseases. Lecture/laboratory.		
315	ADV PHARMCLGY FOR RESP THERAPY	3 credits
Prerequisite: 215. Pharmacologic actions and effects of Cardiopulmonary Medications.		
320	NEONATAL/PED FOR RSP THRPY I	3 credits
Prerequisite: 301. In depth coverage of neonatal & pediatric respiratory care concepts. Emphasis placed on anatomy and physiology, assessment, and therapeutics.		
325	MECHANICAL VENTILATION	4 credits
Prerequisites: 303, 312, 315, 320 341. Introduction to mechanical ventilation and equipment. Lecture/lab.		
340	APPL OF CLINICAL CONCEPTS	2 credits
Prerequisite: 210; corequisite: 301. Introduction to basic respiratory therapy in a hospital setting, and hands-on practice with respiratory therapy equipment, including CPR for the professional. Lecture/clinical.		
341	RT CLINICAL EXPERIENCE I	3 credits
Prerequisites: 215, 311, 340. Application of clinical procedures in a hospital setting, with emphasis on basic therapeutic interventions. Clinical. 225 clinical hours.		
342	RT CLINICAL EXPERIENCE II	2 credits
Prerequisites: 315, 325, 341. Application of clinical procedures in a hospital setting, with emphasis on mechanical ventilation techniques. 150 clinical hours.		
413	RESP THERAPY IN ALTERNATE SET	3 credits
Prerequisite: 313. Pulmonary rehabilitation and home care, as well as care in alternate settings. Lecture/lab.		
420	NEONATAL/PED FOR RSP THRPY II	3 credits
Prerequisite: 320. Detailed study of airway management, pathophysiology and treatment modalities as they relate to neonatal/pediatrics.		
421	ACLS & PALS	3 credits
Prerequisites: 303, 315, 320, 340 or permission. Advanced Cardiac Life Support and Pediatric Advanced Life Support, with mega codes and case studies.		
430	PROBLEMS IN RESPIRATORY THRPY	4 credits
Prerequisites: 313, 420, 443. Capstone course, applies the concepts from clinical situations, using computer simulations and cases and evaluates research in Respiratory therapy.		

443	RT CLINICAL EXPERIENCE III	4 credits
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Prerequisites: 342. Rotation to a variety of Health care facilities to practice specialty procedures in each institution. 300 clinical hours

444	RT CLINICAL EXPERIENCE IV	4 credits
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Prerequisite: 443. Rotation to a variety of health care facilities to practice specialty procedures from each institution. Clinical (total of 300 hours).

Course Details (2820)

100	INTRO ENGINEERING TECHNOLOGY	2 credits
This introductory course stresses skills needed for academic success. Discussion of fields in engineering technology, job searches, calculators, and data measurement and analysis are included.		
105	BASIC CHEMISTRY	3 credits
Prerequisites: 2010:052 with a grade of C or better, or math placement test. Elementary treatment of facts and principles of chemistry emphasizing biological application. Elements and compounds important in everyday life, biological processes and medicine. Introduction to laboratory techniques. Primarily for medical assistant, criminal justice and allied health students. Laboratory.		
110	PHYSICAL SCIENCE FOR TECHNICIANS	3 credits
Elementary presentation of theory and facts of general chemistry and physics (excluding electricity). Includes atomic structure, chemical reactions, energy, electromagnetic radiation, sound and mechanics.		
111	INTRODUCTORY CHEMISTRY	3 credits
Corequisite: 2030:152. Facts and theories of general chemistry. Elements and compounds and their uses. Elementary treatment of atomic structure, gaseous state, periodic table, water, solutions. Laboratory.		
112	INTRO & ANALYTICAL CHEMISTRY	3 credits
Prerequisite: 111 or permission. Chemical equilibria, ionization, radioactivity. Properties of selected metals and nonmetals. Introduction to organic chemistry. Basic concepts of qualitative analysis. Identifications of cations and anions. Laboratory.		
131	SOFTWARE APPLICATION TECHNOLOGY	1 credits
Prerequisite: 2030:151. Word processing, spreadsheets, databases, and internet applications in engineering technology. Computer basics also. Limited to students in Engineering & Science Technology Department programs. Laboratory.		
161	TECHNICAL PHYSICS: MECHANICS I	2 credits
Corequisite: 2030:153. Principles of mechanics that include motion, vectors, forces, equilibrium; also significant figures and unit conversions. Laboratory.		
162	TECHNICAL PHYSICS: MECHANCS II	2 credits
Prerequisites: 161, 2030:153. Principles of mechanics that include work, power, conservation of energy, rotational motion, torque. Laboratory.		
163	TECH PHYSICS: ELECT & MAGNETSM	2 credits

Prerequisites: 161; corequisite: 2030:153. Principles of electricity and magnetism. Electrostatics, basic direct current circuits, magnetism and electromagnetism, alternating currents, basic AC circuits. Laboratory.

164	TECH PHYSICS: HEAT & LIGHT	2 credits
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Prerequisites: 161 and 2030:153. Topics include thermal behavior of matter, thermodynamics, light, geometric and physical optics. Introduction to atomic and nuclear physics. Laboratory.

290	ST: GENERAL TECHNOLOGY	1-2 credits
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(May be repeated for a total of four credits.) Prerequisite: Permission. Selected topics of subject areas of interest in General Technology.

310	PROGRAMMING FOR TECHNOLOGISTS	2 credits
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Prerequisites: 131 and 2030:255. A study of a technical programming language with applications in engineering technology. Limited to students in Engineering & Science Technology Department programs.

Course Details (2830)

110	ELECTROMECHANICAL DEVICES	4 credits
Prerequisite: 2860:110. Application-oriented study of electromagnetic sensors and the electronic devices and circuits used to implement industrial control sensors.		
210	MOTION CONTROL I	4 credits
Prerequisite: 110. Principles, applications, and troubleshooting of AC and DC electric generators and motors. Introduction to basic mechanical and motion control.		
220	MOTION CONTROL II	3 credits
Prerequisite: 210. Integration of basic devices with the speed and position controlling systems for DC and AC motors, servomotors, stepper motors, and hydraulic valves and cylinders.		
230	MACHINE & PROCESS CONTROL	4 credits
Prerequisite: 110. Introduction to the integration of control components into a complete industrial machine or process control system. Study of the types of systems and the required documentation.		
240	INDUSTRIAL COMPUTER CONTROL	3 credits
Prerequisite: 110. Introduction to digital electronics as it applies to industrial control. Survey of number systems, basic digital devices, microprocessors, microcomputer-based control components.		
250	PROGRAMMABLE CONTROLLERS	3 credits
Prerequisite: 230. Principles of operation, application, and troubleshooting of programmable controllers. Includes programming of ladder logic systems.		
260	ELECTRICAL POWER & WIRING	3 credits
A study of electrical power distribution, residential, commercial, industrial wiring, and electrical safety. Emphasis on the requirements of the National Electrical Code.		
270	TROUBLESHOOTING & REPAIR PRACT	3 credits
Prerequisite: 210, 230. Surveys mechanical, hydraulic, pneumatic, electrical, and electronic troubleshooting and repair practices. Problem isolation, repair, and shop practices are considered. Safety practices are emphasized.		

Course Details (2840)

111	POLYMER TECHNOLOGY I	3 credits
Introduction to chemical and physical structure, properties and applications of polymers. Interaction between materials properties, product design and processing. Characterization of the major processes.		
112	POLYMER TECHNOLOGY II	3 credits
Prerequisite: 111. This course emphasizes the processing of thermoplastics and thermosetting plastics. The laboratory introduces students to some of the major processes and equipment operation.		
202	INSTRUMENTAL METHODS	3 credits
Prerequisites: 2820:111, 2840:111, 2860:110. Instrumentation employed in qualitative and quantitative analysis. Theory and practice in chromatographic, spectrophotometric and other instrumental methods. Laboratory.		
211	POLYMER TECHNOLOGY III	3 credits
Prerequisites: 2820:131, 2840:101, 112. This course emphasizes the testing and characterization of materials used in polymer product fabrication, and the testing and analysis of finished polymer products.		
220	POLYMER DESIGN & PROCESSING	2 credits
Prerequisite: 211. Combines study of polymer properties, processing, and design guidelines to analyze complete manufacturing, testing, and quality assurance programs. Examples of significant applications analyzed in detail.		
260	COMPOUNDING METHODS	2 credits
Principles and methods of selecting and compounding rubber for specific end uses. The compounder's art. Processing and testing of basic elastomers and products. Laboratory.		
281	POLYMER PROJECT	2 credits
Prerequisite: 211. Student teams, choosing their own projects, design a polymeric product, select materials, processes, and simulate design and development of the product. Individual final reports required.		
290	ST: POLYMER TECHNOLOGY	1-2 credits
(May be repeated for a total of four credits) Prerequisite: permission. Selected topics or subject areas of interest in polymer technology.		

Course Details (2860)

110	BASIC ELEC & ELECTRONICS	4 credits
Corequisite: 2030:151 or 2030:161. Principles of electronics: resistors, inductance, capacitance, transistors, microprocessors, power sources, motors, generators, test equipment, circuit diagnosis, troubleshooting. Credit not applicable toward the A.A.S. in Electronic Technology.		
120	CIRCUIT FUNDAMENTALS	4 credits
Corequisite: 121, 2030:152, 153. SI units, current, voltage, resistance, Ohm's Law, circuit analysis, network theorems, computer simulation, inductor, capacitor, RLC dc analysis, transients, laboratory support of circuit concepts, ac introduction.		
121	INTRO: ELECTRONICS & COMPUTERS	2 credits
Prerequisite: 2030:151 or placement. Corequisite: 2860:120. Supporting 2860:120 Circuit Fundamentals, this course introduces students to computers and software, technical communications, laboratory practices, and to the electronics industry.		
122	AC CIRCUITS	3 credits
Prerequisite: 120; corequisites: 2030:154. Sinusoidal voltage and current, reactance and impedance, methods of AC circuit analysis, AC power, transformers, AC meters and oscilloscopes, dependent and independent sources.		
123	ELECTRONIC DEVICES	4 credits
Prerequisite: 120. Physical theory, characteristics and operational parameters of solid-state devices. Analysis and design of electronic circuits incorporating these devices, utilizing characteristic curves and linear modeling.		
206	PERSONAL COMPUTER MAINTENANCE	4 credits
Corequisite: 217. Personal computer fundamentals, software diagnostics to isolation of hardware faults. Set up, maintain, diagnose, repair, upgrade personal computers. Not applicable towards an EET degree.		
217	SUVEY OF DIGITAL ELECTRONICS	4 credits
Prerequisite: 136. Adders, flip-flops, data storage, counters, shift registers, memory. This course also includes an introduction to computer architecture and hardware. Credit not applicable toward the A.A.S. in Electronic Engineering Technology.		
225	APPLS OF ELECTRONIC DEVICES	4 credits
Prerequisite: 123, 2030:154. Frequency response, filter concepts, electronic amplifiers, power amplifiers, multistage amplifiers, differential amplifiers, operational amplifiers, voltage regulators, feedback and oscillators, special devices, computer simulation analysis.		

237	DIGITAL CIRCUITS	4 credits
Prerequisites: 123 and 136. Devices used in logic circuits, interfacing, combinational logic, arithmetic circuits, encoders, multiplexers, programmable logic devices, flip-flops, counters, shift registers, computer modeling of digital circuits.		
238	MICROPROCESSOR APPLICATIONS	4 credits
Prerequisite: 237. Programmable logic devices, computer modeling of digital circuits, memory circuits. Computer architecture, programming the microprocessor, microprocessor hardware, microprocessor applications, parallel I/O and programmable timers.		
242	MACHINERY & CONTROLS	3 credits
Prerequisites: 120, 121 or 370 (previously 270). Study of DC and AC motors and generators and their control. Fundamentals of power transformers. Three-phase distribution and motor control. Principles of industrial electronic devices.		
251	ELECTRONIC COMMUNICATIONS	4 credits
Prerequisite: 225. Resonance, coupling, filters, oscillators, mixers, power amplifiers, AM, FM, receivers.		
260	ELECTRONIC PROJECT	2 credits
Prerequisites: final semester or permission and 2940:210. Design, construction, and testing of an electronic circuit of choice. Progress reports, oral, and a formal written report required. Discussion of electronic design, fabrication, and troubleshooting techniques.		
280	MICROPROC SERVICE PRACT/SEM	3 credits
Prerequisite: 206, 217. Setup, maintain, diagnose, repair, upgrade personal computers, peripheral devices. Include teamwork, assisting others and review alternative solutions. Not applicable towards an Electronic Engineering Technology degree.		
290	ST: ELECTRONIC ENGR TECHNOLOGY	1-4 credits
Prerequisite: permission of instructor. Directed study in a special field of interest chosen by the student in consultation with the instructor(may be repeated for a total of six credits).		
350	ADVANCED CIRCUIT THEORY	3 credits
Prerequisite: 251. Corequisite: 2030:356. Nodal, mesh, Thevenin, and dependent sources in resistive circuits. Inductor and capacitor as time domain elements. First- and second-order circuit analysis. Phasor analysis. Operational amplifier analysis.		
352	MICROCONTROLLERS	4 credits
Prerequisite: 238; corequisite: 350. Using a typical microcontroller, study its architecture, program it, use subroutines and interrupts, use it in various applications, utilize various on-board modules including analog-to-digital, and timers.		
354	ADVANCED CIRCUITS APPLICATIONS	4 credits

Prerequisites: 350, 2030:356, and 2820:310 or 2440:170 or 3460:126 or 2440:256 or 3460:208 or 2440:160 or 4450:208 or 3460:209. Introduction to PSpice. Calculating electrical power. Series and parallel resonance. Laplace transforms in operational circuit analysis. Transfer functions, impulse function, Bode diagrams, Fourier Series.

370 SURVEY OF ELECTRONICS I 3 credits

Prerequisite: 2820:163. Fundamentals of DC and AC electrical circuits and rotating machinery. For non-Electronic Engineering Technology majors.

371 SURVEY OF ELECTRONICS II 3 credits

Prerequisite: 370. Survey of the most commonly used solid state circuit components including typical applications. Introduction into digital circuits and microprocessor applications. For non-Electronic Technology majors.

400 COMPUTER SIMULATIONS IN TECH 3 credits

Prerequisites: 354, 2030:345. Introduce the use of software widely used in industry to simulate and study electrical circuits and signals. Methods of data sampling, management and presentation will be studied.

406 COMMUNICATION SYSTEMS 3 credits

Prerequisites: 251 and 354. Digital communications, transmission lines, waveguides, microwave devices and antennas.

420 BIOMED ELECTRONIC INSTRTN 3 credits

Prerequisite: 354. Introduction to electrical signals from the body, transducers, recording devices, telemetry, microprocessor applications, and electrical safety of medical equipment.

451 INDUSTRIAL ELECTRICAL SYSTEMS 3 credits

Prerequisites: 354. Electric power, industrial nameplates, power factor correction, mutual inductance, linear transformers, power transformers, polyphase systems, per-phase analysis, system grounding, protective device coordination computer-aided analysis.

453 CONTROL SYSTEMS 4 credits

Prerequisites: 354, 2870:301. Modeling and responses of closed-loop systems. Laplace transforms, root-locus analysis. Stability, compensation, digital control, optimal control. Digital computer in system simulation and design.

490 ST: ELECTRONIC ENGR TECHNOLOGY 1-4 credits

Prerequisite: permission of instructor. Directed study in a special field of interest chosen by the student in consultation with the instructor (may be repeated for a total of six credits).

497 SR HONORS PROJ: ELECTRON TECHN 1-3 credits

(May be repeated for a total of six credits) Prerequisites: senior standing in Honors Program, permission of department preceptor and major in electronic technology. Independent research leading to completion of Senior Honors Thesis or other original work.

Course Details (2870)

301	COMP CNTRL AUTOMATED SYS	3 credits
The development of computer based systems and computer programs using robotics and machine controllers as the solutions for automated manufacturing problems.		
311	FACILITIES PLANNING	3 credits
Prerequisite: 2940:180 or 2940:210 or permission. An application based study of facilities analysis, design and layout utilizing software based solutions.		
332	MGMT OF TECH BASED OPERATIONS	3 credits
A study of the techniques and knowledge necessary to effectively manage technical personnel.		
348	CNC PROGRAMMING I	3 credits
Prerequisites: 2940:121, 2030:154; or permission. Introduction to numerical control (N/C) of operation of machine tools and other processing machines. Includes programming, types of N/C systems, economic evaluation.		
441	ADVANCED QUALITY PRACTICES	3 credits
Prerequisites: 2880:241 or permission. Specific quality assurance procedures will be developed conceptually, proven mathematically, and then tested in lab exercises. Industry accepted SQC software will be used.		
448	CNC PROGRAMMING II	3 credits
Prerequisite: 348. Introduction to computer-assisted interactive part programming system. Writing of milling and drilling programs.		
470	SIMULATION OF MFG SYSTEMS	3 credits
Prerequisite: 2880:211. Computer simulation solutions applied to the traditional manufacturing problems of equipment justification production line balancing, and capacity planning.		
480	AUTOMATED PRODUCTION	3 credits
Prerequisites: 2880:211 or senior status. A study of the automated production system. The various systems studied thus far, CNC, robotics, automated machines via PLCs, and facilities design, are integrated and analyzed from a production standpoint. The issues of line balance, reliability, queue sizing, and personnel matters are included.		
490	MANUFACTURING PROJECT	2 credits

Prerequisite: Senior status. Advanced CAD/CAM topics are presented. A comprehensive project is undertaken.

495	INDIV INVEST MANUFAC ENGR TECH	2 credits
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Selected topic(s) that provide for specific individual study in the area of manufacturing engineering technology under the direct supervision of a faculty member.

496	ST: MANUFACTURING ENGR TECH	1-3 credits
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Prerequisite: permission. Selected topic(s) that provide for specific course work in the area of manufacturing engineering technology offered once or only occasionally in areas where no formal course exists.

499	W: MANUFACTURING ENGINR TECH	1-3 credits
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Prerequisite: permission. Group studies of special topics in manufacturing engineering technology.

Course Details (2880)

100	BASIC PRINCIPLES OF MFG MGMT	4 credits
A survey of basic concepts of management and their interrelationships to a manufacturing environment. Includes production control, quality control, work measurement, and employee motivation.		
110	MANUFACTURING PROCESSES	3 credits
Study of the machines, methods, and processes used in manufacturing.		
130	WORK MEASUREMENT & COST ESTIM	3 credits
Prerequisite: 100. Time and motion study. Development of accurate work methods and production standards, and their relationship to manufacturing cost estimates.		
151	INDUSTRY SAFETY & ENVIR PROTEC	2 credits
A contemporary overview of the science and management of occupational health and safety programs, policies, and procedures in an industrial and business type environment.		
201	ROBOTICS & AUTOMATED MFG	3 credits
Prerequisite: 100 or permission of instructor. Study of manufacturing automation and the computer-based products and processes available for this task. Robots, machine controllers, and machine/process interfaces are investigated.		
211	COMPUTERIZED MFG CONTROL	3 credits
Prerequisite: 100. Processing of production order by computer through requisitioning, plant loading, expediting, scheduling and shipping of product. Creation on computer of material requisitions, plant schedules, sent-to-stocks and shipping orders as by-products of processing production order.		
232	LABOR MANAGEMENT RELATIONS	3 credits
Prerequisite: 100. Study of historical background of labor movement, management viewpoints, legal framework for modern labor organizations and collective bargaining process.		
241	INTRODUCTION TO QUALITY ASSURA	3 credits
Prerequisite: 100 and 2030:152. Theory and practice of inspection and sampling techniques for measurement of quality, QC charts, sampling plans, mill specs, checking machine capabilities, and setting tolerances.		
290	ST: INDUSTRIAL TECHNOLOGY	1-2 credits
(May be repeated for a total of four credits) Prerequisite: permission. Selected topics or subject areas of interest in industrial technology.		

Course Details (2920)

100	SURVEY OF MECHANICAL ENGR TECH	2 credits
Overview of the Mechanical Engineering Technology degree programs; pre-testing; career opportunities; professional societies & certification; standards; and useful tools of the MET field.		
101	INTRO TO MECHANICAL DESIGN	3 credits
Prerequisite: 2940:121; corequisite: 2030:154. Topics in engineering drawing: conventions, sections, dimensioning and tolerancing. Detail drawings, subassembly and assembly drawings. Manufacturing processes. Descriptive geometry. Drawing mechanical components.		
130	INTRO TO HYDRAULICS & PNEUM	3 credits
Principles of hydrostatic forces, pressure, density, viscosity, incompressible and compressible fluids. Principles of hydraulic and pneumatic devices and systems.		
142	INTRO TO MATERIAL TECHNOLOGY	3 credits
Fundamental properties of materials. Material testing. Applications of methods to control material properties.		
243	KINEMATICS	3 credits
Prerequisite: 2990:125; Corequisite: 2920:101. Study of rigid-body motions of simple linkages, cams, gears, and gear trains. Vector solutions emphasized. Industrial applications presented and computers used to analyze mechanisms.		
245	MECHANICAL DESIGN II	5 credits
Prerequisites: 2940:210, 2990:225; Corequisite: 2920:142, 243. Design of machine elements: springs, shafts, fasteners, welded joints. Combined stress and fatigue analysis. Design projects. Experimental stress analysis.		
249	APPLIED THERMAL ENERGY I	2 credits
Prerequisites: 2030:255, 2820:164. Thermodynamic principles. Study of power cycles. Applications in I.C. engines, compressors, steam power cycles, refrigeration.		
251	FLUID POWER	2 credits
Prerequisites: 2820:162, 164. Statics and dynamics of fluids. Viscosity, energy and momentum relationships. Fluid machinery and measurements.		
252	THERMO-FLUIDS LABORATORY	1 credits
Prerequisite: 251; corequisite: 249. Laboratory experiments in applied thermal energy and fluid power.		

290	ST: MECHANICAL ENGR TECHNOLOGY	1-3 credits
(May be repeated for a total of four credits) Prerequisite: permission. Selected topics or subject areas of interest in Mechanical Engineering Technology.		
310	ECONOMICS OF TECHNOLOGY	3 credits
Prerequisite: 64 credits or permission. Economic principles as they pertain to technology. Equivalence, alternatives, costs, depreciation, valuation. Project studies.		
344	DYNAMICS	3 credits
Prerequisites: 243; 2030:255; 2990:125. Introduces particle dynamics, displacement, velocity, and acceleration of constrained rigid bodies in plane motion. Kinetics of particles and rigid bodies, work and energy, mechanical vibration.		
346	MECHANICAL DESIGN III	4 credits
Prerequisites: 344, 245; 2820:310. Continuation of design of mechanical components: gears, bearings, brakes, and clutches. Special topics presented will be coordinated with assigned design projects.		
347	PRODUCTION MACHINERY & PROCESS	3 credits
Prerequisites: 245 and 2030:255. Study of manufacturing processes (casting, forging, welding, forming sheet metal), integrating material technology, mechanical design, and mechanics of materials.		
365	APPLIED THERMAL ENERGY II	3 credits
Prerequisites: 249, 251, 2030:255. Review and application of basic thermodynamic principles used in designing automotive engines and refrigeration equipment. Introduction to heat transfer, heating, ventilation, and air conditioning.		
370	PLASTICS DESIGN & PROCESS	3 credits
Prerequisites: 2820:111 or higher. Introduction to structure and properties of polymers, selection based on properties and cost, design of products and tools, basic principles of the major processes.		
402	MECHANICAL PROJECTS	1 credits
Prerequisite: senior standing. Individual projects emphasizing creative technical design.		
405	INTRO TO INDUST MACH CONTROL	3 credits
Prerequisite: 2860:370 (previously 270). Principles and design of industrial machine control systems. Application oriented study of typical control devices. Utilization of programmable controllers as the system logic controllers.		
470	PLASTICS PROCESS & TESTING	2 credits
Prerequisites: 370 or permission. Use of basic polymer testing methods. Setup and operation of modern molding and extrusion equipment. Basic troubleshooting procedures. Study of processing effects on final properties.		

490	MECH ENGR TECH SENIOR SEMINAR	1 credits
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Prerequisite: Senior Standing. An opportunity for post-testing of all MET students and the presentation of social and professional responsibilities, diversity, professional certification, life-long learning, and career opportunities.

497	SR HNR PRJCT IN MECH ENGR TECH	1-3 credits
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(May be repeated for a total of six credits) Prerequisites: senior standing in Honors Program, permission of area honors preceptor and major in mechanical technology. Independent research leading to completion of senior honors thesis or other original work.

498	INDP STUDY: MECH ENGR TECH	1-4 credits
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Prerequisite: department permission. Directed study in a special field of interest chosen by the student in consultation with the instructor (may be repeated for a total of six credits).

Course Details (2940)

121	TECHNICAL DRAWING I	3 credits
Lettering and proper use of drawing instruments; freehand sketching; geometric drawing; orthographic projection; auxiliary views, sections, pictorials; introduction to basic descriptive geometry. Laboratory.		
122	TECHNICAL DRAWING II	3 credits
Prerequisite: 121, 210. Covers dimensioning; allowances and tolerances; geometric tolerancing; threads and fasteners; descriptive geometry; intersections; developments; and computer applications. Laboratory.		
150	DRAFTING DESIGN PROBLEMS	2 credits
Prerequisite: 2030:152. Introductory course in basic concepts in engineering technology computations. A study of technical terminology and applied mathematics.		
170	SURVEYING DRAFTING	3 credits
Corequisite: 2030:152 or permission. Drafting procedures, techniques, and tools required for the various phases of survey office work. Projects include topographic maps, plan and profile drawings, and cross-section drawings. Laboratory.		
180	INTRODUCTION TO CAD	1 credits
Drafting techniques using AutoCAD. Topics include drawing, editing, dimensioning, plotting, layers and text. Credit not applicable toward the AAS in Drafting and Computer Aided Drafting Technology. Laboratory.		
200	ADVANCED DRAFTING	3 credits
Prerequisite: 122. Principles of descriptive geometry applied to practical problems pertaining to the civil and mechanical fields of technology. Laboratory.		
210	COMPUTER AIDED DRAWING I	3 credits
Drafting procedures and techniques used for creating drawings using AutoCAD software. Topics include basic components, drawing, editing, dimensioning, layers, text, blocks, plotting, and hatch.		
211	COMPUTER AIDED DRAWING II	3 credits
Prerequisite: 2940:210. Continuation of 2940:210. This course covers advanced topics in the use of AutoCAD. Those topics include UCS, VPoint, DView, wire frames, Boolean functions, customization, and AutoLISP. Laboratory.		
230	MECHANICAL SYSTEMS DRAFTING	3 credits
Prerequisite: 122. Drawing fundamentals and terminology of welding, gears, cams, piping, sheet metal, and fluid power drawings. Laboratory.		

240	ELECTRICAL & ELECTRONIC DRFTG	3 credits
Corequisite: 122. Drafting fundamentals, terms, and symbols required for electrical, electronics, and instrumentation drawings. Included are interconnecting diagrams, PC boards, and architectural and industrial plans. Laboratory.		
245	STRUCTURAL DRAFTING	2 credits
Prerequisite: 121, 210 or equivalent. Duties of the structural draftsman in preparation of detailed working drawings for steel and concrete. Emphasis on portrayal, dimensions, and notes on a working drawing. Laboratory.		
250	ARCHITECTURAL DRAFTING	3 credits
Prerequisite: 121. Drawing fundamentals, terminology, and symbols for developing a set of basic construction plans and details. Included also are presentation drawings and interior and exterior planning. Laboratory.		
260	DRAFTING TECHNOLOGY PROJECT	3 credits
Prerequisite: Completion of 20 credits of 2940. Provides opportunity to research and develop a specific drafting project within chosen field of interest.		
290	ST: DRAFTING TECHNOLOGY	1-3 credits
(May be repeated for a total of three credits) Prerequisite: permission. Selected topics on subject areas of interest in drafting technology.		

Course Details (2980)

100	INTRODUCTION TO GEOMATICS	2 credits
<p>An introductory course into the field of surveying and mapping technology. Integrated topics include: types of surveys, cartography, and geographic information systems.</p>		
101	BASIC SURVEYING	3 credits
<p>Corequisites: 2030:153. Care and use of basic surveying field instruments and the basic computations and adjustments necessary to post process the field survey measurements. Field Practice.</p>		
102	TOPOGRAPHIC SURVEYING	2 credits
<p>Prerequisites: 101 and 2030:153. Computations and adjustments of field survey measurements using both conventional and computer methods. Development of maps and plans stressed. Field Practice.</p>		
122	ELEMENTARY SURVEYING	3 credits
<p>Elementary surveying for non-surveying and construction majors. Basic tools and computations. Field practice.</p>		
123	SURVEYING FIELD PRACTICE	2 credits
<p>Prerequisite: 102 or equivalent. Practical experience in use of surveying equipment and methods of surveying. Provides students with responsibility for making decisions and planning and directing complete project.</p>		
222	CONSTRUCTION SURVEYING	3 credits
<p>Prerequisite: 102; corequisite: 2940:210. Methods and procedures for establishing line and grade for construction. Circular and parabolic curves. Cross-sectioning methods earthwork., communication and plan reading. Field practice.</p>		
223	FUNDAMENTALS OF MAP PRODUCTION	3 credits
<p>Introduction to the art and science of maps and map production. Course includes the history of mapping and an overview of the field of cartography. Laboratory.</p>		
225	ADVANCED SURVEYING	3 credits
<p>Prerequisite: 228. Introduction to topographic mapping, flood maps, and ALTA surveys. Advanced topics in control surveys, State Plane Coordinates, and bearings from celestial observations. Field practice.</p>		
228	BOUNDARY SURVEYING	3 credits

Prerequisites: 102, 355, 2940:170 or equivalent. Analysis of evidence and procedures for boundary location; establishing and/or locating points for boundary and mortgage location surveys; plat preparation. Ohio survey minimum standards. Field Practice.

251 CST SEMINAR 1 credits

Prerequisite: 225. Prepares students for the National Society of Professional Surveyors Certified Surveying Technician Examination. Examination is given at the end of the review.

310 SURVEY COMPUTATIONS & ADJUST 2 credits

Prerequisite: 222, 223. Concepts relating to measurement error, probability, and reliability. Computation and adjustment of horizontal and vertical networks.

315 BOUNDARY CNTRL & LGL PRIN 3 credits

Prerequisite: 12 credits in surveying courses or permission. Historical development of boundaries, rectangular system of public land surveys, systems to describe property, wording and interpretation of deed descriptions, surveyor's rights, duties and responsibilities.

325 OSHA SAFETY REQ FOR SURVEYORS 1 credits

To provide OSHA safety training and certification required for surveying companies.

330 APPLIED PHOTOGRAMMETRY 3 credits

Prerequisite: 355. An introduction to metrical and quantitative photogrammetry using both hard- and soft-copy systems. Laboratory.

335 THE BUSINESS OF SURVEYING 2 credits

A course focused on the business aspects of surveying, including development of business plan components for a company offering professional surveying and mapping services.

340 CADASTRAL SURVEYING 2 credits

Prerequisites: 101 or 4300:230. A study of the official surveys of the United States. Cadastral surveys establish or recreate boundaries and /or tracts of land.

355 COMPUTER APPLICTN IN SURVEYING 3 credits

Use of current surveying software to solve typical problems/projects in surveying technology.

415 LEGAL ASPECTS OF SURVEYING 3 credits

Prerequisite: 315. A study of statute and common law related to land surveying. Evidence and the surveyor's role in the judicial process. Interpreting and writing land descriptions.

420 ROUTE SURVEYING 3 credits

Prerequisite: 225. Surveying for long but narrow strips of land such as highways, railroads, and pipe lines. Course includes all requisite calculations and drawings.

421	SUBDIVISION DESIGN	3 credits
Prerequisite: 222, 315. Site analysis, land use controls, and plotting procedures. Laboratory includes preparation of various types of projects leading to a complete subdivision.		
422	GPS SURVEYING	3 credits
Prerequisites: 225, 2985:101 or permission. Introduction to the Global Positioning System (GPS). Course includes the planning, data collection, and processing of GPS data.		
425	LAND NAVIGATION	3 credits
Interpretation and use of topographic maps. Study of basic map elements with emphasis on identification of features and coordinate systems. Map use for land navigation.		
426	HISTORY OF SURVEYING TO 1785	2 credits
A history of land surveying. Emphasis on the development of survey procedures through history. Part I (to 1785) covers the ancient world to the colonial period.		
427	OHIO LANDS	2 credits
Study of the history of the original Ohio Land Subdivisions		
428	HIST OF SURVEYING SINCE 1785	2 credits
A history of land surveying. Emphasis on the development of survey procedures through history. Part II (Since 1785) covers the history of the United States to date.		
430	SURVEYING PROJECT	3 credits
Prerequisite: senior standing and permission. Provides opportunity to research and develop a specific surveying project within chosen area of surveying. Oral, written and graphical presentation of completed project(s).		
431	SENIOR SEMINAR	2 credits
Prerequisite: Senior standing. Students demonstrate knowledge and skills acquired as surveying majors through assessment testing and review of professional licensure laws. Preparation for national exams.		
445	APPLICATIONS IN GIS USING GPS	3 credits
Prerequisite: 2985:101. Advanced instruction in GIS applications using GPS as well as other surveying and mapping methods. Laboratory.		
450	TOPICS: PROFESSIONAL PRACTICE	2 credits
Prerequisite: Junior standing. Topics in applicational areas of surveying from the point of view of the practitioner and the consumer of land-related data.		
489	ST: SURVEYING	1-3 credits

Course Details (2985)

101	INTRO TO GEOG & LAND INFO SYST	3 credits
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Introduction to the principles and concepts of Geographic and Land Information Systems used in surveying and mapping applications. Laboratory.

151	GIS ESSENTIAL SKILLS	3 credits
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Prerequisites: 101 or permission from instructor. Continued instruction and hands-on emphasis on common skills used in the GIS industry. Skills: Creating reference maps, geocoding, digitizing, reports and mapbooks. Laboratory.

201	INTERMED GEOG & LAND INFO SYS	3 credits
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Prerequisite: 101. Continued instruction in the hands-on technical applications of Geographic and Land Information Systems. Laboratory.

205	BUILDING GEODATABASES	3 credits
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Prerequisite: 101 or equivalent. Introduction and application of spatial geodatabases. The student will create, use, and manage geodatabases. Geodatabases are used for storing spatial and attribute data. Laboratory.

210	GEOG & LAND INFO SYS PROJECT	Prerequisites: 101. Practical application and presentation techniques using the principles and concepts of cartography and geographic information systems. Laboratory.
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280	TOPICS: PROFESSIONAL PRACTICE	2 credits
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Topics in applicational areas of Geographic and Land Information Systems (GIS/LIS) from the point of view of the practitioner and the consumer.

290	ST: GEOGRAPHIC & LAND INFO SYS	1-3 credits
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Prerequisite: Permission of instructor. Special lecture/laboratory courses offered once or only occasionally in areas where no formal course exists.

291	GEOG & LAND INFO SYS INTERNSHP	3 credits
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Prerequisite: Permission of Program Director. Supervised professional experience in GIS/LIS agencies or related setting.

295	WORKSHOP: GEOG & LAND INFO SYS	1-3 credits
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Prerequisite: Permission of instructor. Group studies of special topics in GIS/LIS. May be used for elective credit only to a maximum of three credits.

299	INDEPENDENT STUDY	1-3 credits
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Prerequisite: Permission of instructor. Directed study in a special field of interest chosen by the student in consultation with the instructor.

301	EXPLORING ARCGIS EXTENSIONS	3 credits
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Prerequisites: 101 or permission from instructor. Specialized instruction and laboratory exercises in working with the ArcGIS extensions, Spatial Analyst, 3-D Analyst and Network Analysis. Laboratory.

Course Details (2990)

125	STATICS	3 credits
Prerequisites: 2820:162, 2030:153. Forces, resultants, and couples. Equilibrium of force systems. Trusses, frames, centroid, moment of inertia, and friction.		
131	BUILDING CONSTRUCTION	2 credits
Materials and methods used in construction. Encompasses buildings constructed with wood, steel, concrete or a combination of these materials.		
150	PLAN READING	2 credits
Prerequisite: 131. The language of construction. Symbols, scales, plan views, elevation views, sections and details. Quantity take-off estimation.		
225	STRENGTH OF MATERIALS	3 credits
Prerequisite: 125. Stress, strain and stress-strain relationships. Tension, compression, torsion, beams. Shear and moment diagrams. Combines stresses.		
234	ELEMENTS OF STRUCTURES	3 credits
Prerequisite: 125 and 225. Principles of stress and structural analysis, concepts of steel, timber design, and reinforced concrete.		
237	MATERIALS TESTING I	2 credits
Prerequisite: 2030:153. Laboratory testing of soils with emphasis on physical properties of soil. Laboratory and field procedures used for quality control.		
238	MATERIALS TESTING II	2 credits
Prerequisite: 2030:153. Mix design of concrete. Laboratory testing of concrete containing ordinary Portland cement and pozzolanic admixtures. Experiments demonstrate physical properties as related to design and quality control.		
245	CONSTRUCTION ESTIMATING	3 credits
Prerequisite: 150 and 2030:153. Quantity takeoffs in construction to include mass excavations, foundation systems, structural steel, residential construction, and various commercial construction methods.		
246	SITE ENGINEERING	3 credits
Prerequisites: 131 and 2980:101 . Development of a site including surveying, excavation, soil treatment, heavy equipment requirements, storm water management, pavement design, and construction of roadways.		

310	RESIDENTIAL BLDG CONSTRUCTION	3 credits
Introduction to building design, wood framing, and mechanical systems as commonly found in residential housing.		
312	NEIGHBORHOOD REVITALIZATION PR	3 credits
Residential construction and inspection knowledge used to perform field work, service projects, and written inspection reports.		
320	ADVANCED MATERIALS TESTING	3 credits
Prerequisite: 241. This course investigates the usage of precision strain gage applications used by technicians in determining stresses in structural elements and mechanical parts.		
351	CONSTRUCTION QUALITY CONTROL	3 credits
Prerequisites: Admission into the BCET program or permission of instructor. Overview of quality control concepts and techniques as related to the construction industry including the necessary statistical tools; exposes students to civil, mechanical and electrical inspection requirements.		
352	FIELD MANAGEMENT & SCHEDULING	2 credits
Prerequisites: 245 or permission. Planning, scheduling, and controlling of field work within time and cost constraints. Manual methods and computer software packages studied.		
354	FOUNDATION CONSTRUCTION METHOD	3 credits
Prerequisites: 234, 237. Soil mechanics and soils exploration as related to construction. Foundation construction methods and practice in the interest of safety and suitable economy.		
355	COMPUTER APPLS IN CONSTR	3 credits
Prerequisite: 2820:131. Work includes visual basic programming, software packages for construction management, presentation software, and website development.		
356	SAFETY IN CONSTRUCTION	2 credits
The purpose of this course is to explain what creates hazards and why, and to suggest where to anticipate trouble in each phase of the work as it progresses.		
358	ADVANCED ESTIMATING	3 credits
Prerequisite: 245 or permission of instructor. This course focuses on estimating and bidding for public and private construction. Includes heavy/highway, residential and building construction with use of computer software to facilitate bid price.		
359	CONSTRUCTION COST CONTROL	3 credits
Prerequisite: 6200:201 or 2420:211. Course develops a practical understanding of the latest managerial accounting principles and practices as they apply to the construction business.		
360	ADMIN OF PUBLIC PROJECTS	3 credits

Prerequisite: Must have completed a minimum of 64 credit hours. Course focus is on the specialized administrative procedures required for public construction projects.

361 CONSTRUCTION FORMWORK 3 credits

Prerequisite: 234 or permission. Introduction to design and construction of formwork and temporary wood structures.

362 ADVANCED ELEMENTS OF STRUCTURE 3 credits

Prerequisite: 234. This course examines advanced topics in structural engineering and is an extension of Elements of Structures.

371 GREEN & SUSTAINABLE BUILD PRAC 3 credits

This course is designed to provide an understanding of sustainable construction practices and their importance on environmental issues.

420 HYDROLOGY AND GROUNDWATER 3 credits

Prerequisite: 2030:154. The topics addressed include the impact of rainfall events on civil facilities and groundwater flow as it relates to the natural water supply.

453 LEGAL ASPECTS OF CONSTRUCTION 2 credits

Prerequisite: Admission into the BCET program or permission of instructor. Study of business of contracting and subcontracting and legal problems therein such as breach, partial performance, payment, insolvency, subsurface. Review of standard contracts and construction industry rules of arbitration.

455 COMPUTER PRECISION ESTIMATING 3 credits

Prerequisite: 245. Students will explore sophisticated software programs utilized by the construction industry to prepare estimates and bid packages.

462 MECHANICAL SERVICE SYSTEMS 3 credits

Introduction to materials and equipment used in mechanical heating, ventilating, air conditioning, water and waste systems.

463 ELECTRICAL SERVICE SYSTEMS 3 credits

Introduction to materials and equipment in electrical systems of buildings. Includes illumination, electrical sources, materials and distribution. Emphasis of fire safety.

465 HEAVY CONSTRUCTION ESTIMATING 3 credits

Prerequisite: 245. Quantity takeoffs and cost analysis to include methods, systems, and equipment relevant to heavy highway and civil infrastructure projects.

466 HYDRAULICS 3 credits

Buchtel College of Arts and Sciences

- Cooperative Education (3000)
- Women's Studies (3001)
- Pan-African Studies (3002)
- International Development Sciences (3004)
- Institute for Lifespan Development and Gerontology (3006)
- English Language Institute (3030)
- Biology (3100)
- Chemistry (3150)
- Classics (3200)
- Anthropology (3230)
- Archeology (3240)
- Economics (3250)
- English (3300)
- Geography (3350)
- Geology (3370)
- History (3400)
- Mathematics (3450)
- Computer Science (3460)
- Statistics (3470)
- Modern Languages (3500)
- Arabic (3501)
- Chinese (3502)
- Latin (3510)
- French (3520)
- German (3530)
- Italian (3550)
- Japanese (3560)
- Russian (3570)
- Spanish (3580)
- Philosophy (3600)
- Physics (3650)
- Political Science (3700)
- Psychology (3750)
- Sociology (3850)
- New Media (7000)
- Art - Myers School of (7100)
- Family and Consumer Sciences (7400)
- Music - School of (7500)
- Music Organizations (7510)
- Applied Music (7520)
- Communication - School of (7600)

- Theatre (7800)
- Theatre Organizations (7810)
- Dance (7900)
- Dance Organizations (7910)
- Dance Somatics (7915)
- Dance Performance (7920)

Notes:

- Biology/N.E.O.U.C.O.M (3100) - Graduate-level courses only. See Graduate Bulletin
- Engineering Applied (3490) - Graduate-level courses only. See Graduate Bulletin
- Engineering Applied (3980) - Graduate-level courses only. See Graduate Bulletin
- Arts Administration (7850) - Graduate-level courses only. See Graduate Bulletin

Course Details (3000)

200	JOB SEARCH STRATEGIES-A&S MAJ	2 credits
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Students engage in comprehensive career planning and develop job search strategies. Course topics include navigating a search, creating resumes/cover letters, interviewing, and portfolio development. No prerequisites required.

301	COOPERATIVE EDUCATION	0 credits
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(May be repeated) For cooperative education students only. Work experience in business, industry, or governmental agency. Comprehensive performance evaluation and written report required.

Course Details (3001)

100	SOCIAL & CULT DIVERSITY - U.S.	3 credits
See department for course description.		
110	MULTICULT SENSITIVITY TRN	1 credits
See department for course description.		
200	INTRODUC TO WOMENS STUDIES	3 credits
Introduction to the interdisciplinary program in Women's Studies. Explores current scholarship in women's issues and experiences from perspectives of psychology, history, sociology, anthropology, and literary criticism. Feminist orientation and methodology.		
480	FEMINIST THEORY	3 credits
Prerequisite: 300. A summary of feminist theory to familiarize students with the main currents in contemporary feminist theory and the origins and evolution of that thought.		
485	ST: WOMENS STUDIES	1-3 credits
(May not be repeated). Special topics and current issues in Women's Studies. Covers content not currently addressed in other courses. Fosters a critical approach to knowledge about women.		
489	INTERN: WOMENS STUDIES	1-4 credits
Prerequisite: 300, permission of Director of Women's Studies. This class provides supervised experience and on-the-job training in an organization, agency, corporation or group dealing with women's issues.		
490	W: WOMENS STUDIES	1-3 credits
Various topics focused on women. Themes and course materials vary each semester. Lecture and discussion.		
493	INDIVIDUAL STUDIES ON WOMEN	1-3 credits
Prerequisite: 300, and approval of Director of Women's Studies. Directed study of selected topics related to women. Projects are chosen by student in consultation with instructor.		
499	SEMINAR IN WOMENS STUDIES	1 credits
See department for course description.		

Course Details (3002)

201	INTRO TO PAN-AFRICAN STUDIES	3 credits
Prerequisites: 3300:112 or 2020:121. An interdisciplinary study from an Afrocentric perspective of African and African diaspora experiences. The course will focus on central issues related to the discipline.		
301	CIVIL RIGHTS AMERICA: 1945-74	3 credits
Social and political actions, events and environment which produces civil rights movement in America. Legal, political and organizational strategies; philosophical arguments; prominent civil rights activists.		
401	SEMINAR AFRO-AMERICAN STUDIES	3 credits
Prerequisite: 3400:260 or permission. Exploration and intensive examination of variety of issues related to role and minority group relations which normally stand outside the compass of any one subject matter area.		
405	AFRICAN AMER MEN'S HIST & STUD	3 credits
This course will examine the experiences of the African American Men from a historical, socio-economic, philosophical, religious/spiritual, psychological standpoint.		
410	AFRICAN AMERICAN RELIGIOUS EXP	3 credits
This course explores the diversity of African American religious beliefs, experiences, and expressions from the colonial era to the present.		
420	ST: AFRO-AMERICAN STUDIES	1-3 credits
(May be repeated for a maximum of three semester credits). Prerequisite: permission of instructor.		
498	INDP STUDY: PAN-AFRICAN	1-3 credits
(May be repeated for a maximum of three semester credits). Prerequisites: 3002:201 and 3400:260 or 3400:261 and permission of director. Directed study in a special field of interest chosen by student in consultation with instructor.		

Course Details (3004)

201	INTRO:INTERNATIONAL DEVELOPMNT	3 credits
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Uses multiple perspectives: economic, geographical, anthropological, political etc. to study relationships between industrialized and developing countries, poverty, productivity, justice and other aspects of development.

401	INTERNATIONAL DEVLPMNT PROJECT	3 credits
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Prerequisites: 21 credits towards International Development Certificate. Research project to be carried out abroad. Students must arrange international experience through channels outside the Certificate program. Project report is capstone requirement of Certificate.

Course Details (3006)

450	INTER SEM LIFE-SPAN DEV & GERO	2 credits
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(May be repeated for a total of two credits) Prerequisite: permission of instructor. Introduction to interdisciplinary study of gerontology including discussion of dimensions of aging, historical framework of aging in America, demographics, service systems, and current issues.

485	ST: LIFE-SPAN DEV & GERONTOL	1-3 credits
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Prerequisite: permission of instructor. Specialized topics and current issues in life-span development or gerontology. Covers content or issues not currently addressed in other academic courses.

486	RETIREMENT SPECIALIST	2 credits
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An investigation of issues related to the design and implementation of pre-retirement planning and examination of life-span planning education as employed by labor, business and education.

490	W: LIFE-SPAN DEV & GERONTOLOGY	1-3 credits
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(May be repeated) Group studies of special topics in life-span development and gerontology. May not be used to meet certificate requirements. May be used for elective credit only.

495	PRACT: LIFE-SP DEV & GERONTOL	1-3 credits
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(May be repeated) Prerequisite: permission. Supervised experience in research or community agency work.

Course Details (3030)

031	ELI WRITTEN EXPRESSION	0 credits
Prerequisite: Permission of Instructor. Intensive course in English as a second language writing skills, designed to help students develop effective strategies for expressing ideas clearly and correctly in writing. May be repeated an unlimited number of times as course is noncredit.		
032	ELI READING COMPREHENSION	0 credits
Prerequisite: Permission of instructor. Intensive course in English as a second language reading skills, designed to help students develop efficient reading strategies and build vocabulary. May be repeated an unlimited number of times as course is noncredit.		
033	ELI GRAMMAR & ORAL COMMUNICATN	0 credits
Prerequisite: Permission of instructor. Intensive course in English as a second language grammar with an emphasis on oral skills, designed to help students speak fluently and correctly. May be repeated an unlimited number of times as course is noncredit.		
034	ELI LISTENING COMPREHENSION	0 credits
Prerequisite: Permission of instructor. Intensive course in English as a second language listening skills, designed to help students develop strategies to understand spoken English and take academic lecture notes. May be repeated an unlimited number of times as course is noncredit.		
041	ESL WRITING: DEVL P WRIT PROF CY	0 credits
Prerequisite: permission of instructor. Provides intensive instruction in English as a second language writing. Students develop effective composing strategies while learning to write for a variety of academic purposes. May be repeated an unlimited number of times as course is noncredit.		
042	ESL READING: DEVL P READ PROF CY	0 credits
Prerequisite: permission of instructor. Provides intensive instruction in English as a second language reading. Students acquire effective reading and vocabulary development strategies for a range of academic purposes. May be repeated an unlimited number of times as course is noncredit.		
043	ESL GRAMMAR: DEVL P ORAL PROF CY	0 credits
Prerequisite: permission of instructor. Provides intensive instruction in English as a second language grammar for speaking purposes. Students review grammar basics and expand their knowledge and usage of patterns. May be repeated an unlimited number of times as course is noncredit.		
044	ESL LISTEN: DEVL P AURAL PROF CY	0 credits

Prerequisite: permission of instructor. Provides intensive instruction in English as a second language listening for academic purposes. Students acquire effective listening strategies for a range of contexts. May be repeated an unlimited number of times as course is noncredit.

051 ESL WRITING & STUDY SKILLS 0 credits

Prerequisite: permission of instructor. Intensive course in English as a second language writing and study skills. Students learn and extensively practice techniques for writing, revising, and editing academic texts. May be repeated an unlimited number of times as course is noncredit.

052 ESL READING & STUDY SKILLS 0 credits

Prerequisite: permission of instructor. Intensive course in English as a second language reading and study skills. Students learn and extensively practice techniques for comprehending a variety of academic texts. May be repeated an unlimited number of times as course is noncredit.

053 ESL GRAMMAR & SPEAKING SKILLS 0 credits

Prerequisite: permission of instructor. Intensive course in English as a second language grammar. Students learn and extensively practice a range of grammatical forms and functions in spoken contexts. May be repeated an unlimited number of times as course is noncredit.

054 ESL LISTENING & STUDY SKILLS 0 credits

Prerequisite: permission of instructor. Intensive course in English as a second language listening and study skills. Students learn and practice techniques for comprehending spoken English in an academic setting. May be repeated an unlimited number of times as course is noncredit.

096 ELI WORKSHOP 0 credits

Prerequisite: Permission of instructor. Provides instruction in English language and related topics for speakers of languages other than English. May be repeated an unlimited number of times as course is noncredit.

099 ELI INDEPENDENT STUDY 0 credits

Prerequisite: permission of instructor. Independent study in English as a Second Language under the supervision and evaluation of selected faculty member. May be repeated an unlimited number of times as course is noncredit.

Course Details (3100)

100	INTRODUCTION TO BOTANY	4 credits
Identification and biology of common plants of this region. Recommended for teachers of nature study. Not available for credit toward a degree in biology. Laboratory.		
101	INTRODUCTION TO ZOOLOGY	4 credits
Identification and biology of common animals of this region. Recommended for teachers of nature study. Not available for credit toward a degree in biology. Laboratory.		
103	NATURAL SCIENCE: BIOLOGY	4 credits
Designed for non-science majors. Laboratory and class instruction illustrate concepts of living organisms with emphasis on mankind's position in, and influence on, the environment.		
108	INTRO TO BIOLOGICAL AGING	3 credits
Prerequisite: 3100:103. Survey of normal anatomical and physical changes in aging and associate diseases. (For students in gerontological programs at Wayne College. Not for B.S. biology credit.)		
111	PRINCIPLES OF BIOLOGY I	4 credits
Prerequisite or Corequisite: 3150:151 Molecular, cellular basis of life; energy transformations, metabolism; cell reproduction, genetics, development, immunology, evolution, and origin and diversity of life (through plants). Laboratory.		
112	PRINCIPLES OF BIOLOGY II	4 credits
Prerequisite: 111 with a grade of C- or better. Animal diversity; nutrients, gas exchange, transport, homeostasis, control in plants and animals; behavior; ecology. (111-112 are an integrated course for biology majors.) Laboratory.		
113	PROF DEVEL FOR BIO MAJORS	1 credits
Prerequisite/Corequisite: 3100:111. This course is for Biology majors in their first year of study to provide useful tools as they pursue a Biology career. Recommended, not required.		
130	PRINCIPLES OF MICROBIOLOGY	3 credits
Basic principles and terminology of microbiology; cultivation and control of microorganisms; relationships of microorganisms; medical microbiology. Laboratory. Not available for credit toward a degree in biology.		
180	BS/MD ORIENTATION	1 credits
Orientation to the BS/MD Program. Restricted to students in the BS/MD Program. Graded credit/no credit. Not available for credit toward a biology degree.		

190	HLTH CARE DELIVERY SYSTS	1 credits
Health-care principles and practices. Restricted to the student in NEOUCOM, six-year BS/MD program. Graded credit/noncredit. Not available toward credit as major in biological sciences.		
191	HLTH CARE DELIVERY SYSTS	1 credits
Health-care principles and practices. Restricted to the student in NEOUCOM, six-year BS/MD program. Graded credit/noncredit. Not available toward credit as major in biological sciences.		
200	HUMAN ANAT & PHYSIOLOGY I	3 credits
Study of structure and function of the human body. Molecular, cellular function, histology, integumentary system, skeletal system, muscular system, nervous system, and the sense organs. Not available for credit toward a degree in biology.		
201	HUMAN ANAT & PHYS LAB I	1 credits
Laboratory devised to allow hands on experience using models, dissections of various animals, virtual dissection, and physiological exercises. Not available for credit toward a degree in biology.		
202	HUMAN ANAT & PHYSIOLOGY II	3 credits
Prerequisite: 200. Study of structure and function of the human body. Endocrine system, cardiovascular system, lymphatics, respiratory system, urinary system, digestive system, and reproductive systems. Not available for credit toward a degree in biology.		
203	HUMAN ANAT & PHYS LAB II	1 credits
Laboratory devised to allow hands on experience using models, dissections of various animals, virtual dissection, and physiological exercises. Not available for credit toward a degree in biology.		
211	GENERAL GENETICS	3 credits
Prerequisite: 112 with a grade of C- or better. Principles of heredity, principles of genetics.		
212	GENETICS LAB	1 credits
Prerequisite: 112 with a grade C- or better, and prerequisite or corequisite: 211. Laboratory experiments in genetics with emphasis on scientific method; techniques in molecular biology.		
217	GENERAL ECOLOGY	3 credits
Prerequisite: 112 with a grade of C- or better. Study of interrelationships between organisms and environment.		
225	BIOLOGY OF AIDS	1 credits
Prerequisite: permission. Course examines the Human Immunodeficiency Virus and the disease of AIDS. Virus structure, replication, therapy, transmission, epidemiology, disease process and social consequences are studied. Not available for credit toward a degree in biology.		
265	INTRODUCTORY HUMAN PHYSIOLOGY	4 credits

		Study of physiological processes in human body, particularly at organ-systems level. Not open to preprofessional majors. Laboratory. Not available for credit toward a degree in biology.
290	HLTH CARE DELIVERY SYSTS	1 credits
		Health-care principles and practices. A continuation of 190/191 for a second year student in NEOUCOM six-year BS/MD program. Graded credit/noncredit. Not available toward credit as major in biological sciences.
291	HLTH CARE DELIVERY SYSTS	1 credits
		Health-care principles and practices. A continuation of 190/191 for a second year student in NEOUCOM six-year BS/MD program. Graded credit/noncredit. Not available toward credit as major in biological sciences.
295	ST: BIOLOGY	1-3 credits
		Prerequisite: Permission. Special courses offered occasionally in areas where no formal course exists. Not available for credit toward a degree in biology.
311	CELL & MOLECULAR BIOLOGY	4 credits
		Prerequisites: 3100: 211, 3150:151, 152, 153, 154. Study of structure and function of cells, with emphasis on both classical and modern approaches to understanding organelles, energy balance, protein synthesis, and replication.
315	EVOLUTIONARY BIOLOGY DISC	1 credits
		Prerequisite: 211 with a grade of C- or better. Informal discussions of various aspects of organic evolution of general or special interest.
316	EVOLUTIONARY BIOLOGY	3 credits
		Prerequisite: 112 with a grade of C- or better. Description of core evolutionary concepts and the history of evolutionary thought including natural selection, sexual selection, genetic drift, higher level selection and speciation.
331	MICROBIOLOGY	4 credits
		Prerequisites: 112 with a grade of C- or better, 211 and prerequisite or corequisite 3150:263. Survey of monera with emphasis on the bacteria: their morphology, cultivation and chemical characteristics. Relationships of microorganisms to humans and their environment. Laboratory.
342	FLORA & TAXONOMY	3 credits
		Prerequisite: 112 with a C- or better. Origins of Ohio flora, ecological and evolutionary relationships. Survey of local flowering plant families, collection and identification of flora. Laboratory and field trips.
343	DIVERSITY OF PLANTS	3 credits
		Prerequisites: 112 with a grade of C- or better, 217. A broad survey of the traditional plant "branches" of the tree of life. Diversity, structure, and function of fungi, algae, and land plants.
344	DIVERSITY OF PLANT LABORATORY	2 credits

Prerequisites: 112 with a grade of C- or better, 217: Corequisite: 343. A broad laboratory survey of the traditional plant "branches" of the tree of life. Students will have hands-on experience with fungi, algae, and land plants.

345 BIOLOGY OF VASCULAR PLANTS 4 credits

Prerequisite: 112 with a grade of C- or better. A lecture and laboratory course which presents an overview of the anatomy, morphology, development and evolution of vascular plants.

363 ANIMAL PHYSIOLOGY I 3 credits

Prerequisite: 112 with a grade of C- or better. Comparative study of transport mechanisms, excitatory membranes, sensory reception, neuroendocrine systems, and muscle contraction. The foundation for all physiology courses.

364 ANIMAL PHYSIOLOGY LAB I 1 credits

Prerequisite: 112 with a grade of C- or better. Corequisite: 363. Laboratory experiments in animal physiology. (Transport processes, neurophysiology, endocrinology, muscle physiology.) Presentation of results in written scientific format.

365 HISTOLOGY 4 credits

Prerequisite: 112 with a grade of C- or better. Cellular structure of organs in relation to their functional activity, life history, comparative development. Laboratory.

406 PRINCIPLES OF SYSTEMATICS 3 credits

Prerequisites: 112 with a grade of C- or better, 211, 316. The science of identifying, naming, and classifying the diversity of life. Topics include: nomenclature, types, techniques of data collection, and methods of phylogenetic reconstruction.

418 FIELD ECOLOGY 4 credits

Prerequisite: 217 (statistics strongly recommended). Introduction to sampling methods, design of experiments and observations, and computer analysis; some local natural history. Laboratory.

421 TROPICAL FIELD BIOLOGY 4 credits

Prerequisites: 111/112 or equivalent. Ecology of coral reefs, tide pools, mangroves, intertidal zones, terrestrial flora and fauna, island biogeography. Taught at a field station in the tropics. Field trips involved; transportation costs.

422 CONSERVATION BIOLOGY 3 credits

Prerequisite: 217. Explores the factors affecting survival of biodiversity, and how to develop practical approaches to resolve complicated conservation issues.

423 POPULATION BIOLOGY 3 credits

Prerequisites: 211, 217. Discussions of animal and plant ecology and evolutionary biology from a species and population level perspective. Includes topics in population ecology and population genetics.

426	WETLAND ECOLOGY	4 credits
Prerequisite: 217. Wetland ecology; principles and conservation. Field studies will be conducted at Bath Nature Preserve. Laboratory.		
427	FRESHWATER ECOLOGY	4 credits
Prerequisite: 112 with a grade of C- or better, or by permission. The course explores the diversity of aquatic life and key characteristics of freshwater ecosystems with emphasis on the Laurentian Great Lakes. Includes field trips, laboratory.		
428	BIOLOGY OF BEHAVIOR	3 credits
Prerequisites: 211, 217, and 316. Biological basis of behavior, ethology, and behavioral ecology. An evolutionary perspective is emphasized.		
429	BIOLOGY OF BEHAVIOR LABORATORY	1 credits
Prerequisite or corequisite: 428 and permission of instructor. Individualized, directed study to provide the student with first-hand experience in observing, describing and interpreting animal behavior.		
430	COMMUNITY/ECOSYSTEM ECOLOGY	3 credits
Prerequisite: 217. An examination of the components, processes, and dynamics in communities and ecosystems. Includes reading and discussion of primary literature.		
433	PATHOGENIC BACTERIOLOGY	4 credits
Prerequisite: 331. Study of major groups of bacteria which produce infections in humans. Biochemical properties of microorganisms which engender virulence and nature of host resistance. Laboratory.		
437	IMMUNOLOGY	4 credits
Prerequisite: 211, 311. Nature of antigens, antibody response, and antigen-antibody reactions. Site and mechanism of antibody formations, hypersensitivity, immunologic tolerance and immune diseases considered. Laboratory.		
439	ADVANCED IMMUNOLOGY	3 credits
Prerequisite: 437. Immunology is studied from a historical and current perspective. Topics include T cells, B cells, antigen presentation, HIV, and transplantation.		
440	MYCOLOGY	4 credits
Prerequisite: 112 with a grade of C- or better. Structure, life history, classification of representative fungi with emphasis on the importance of fungi to humans. Laboratory.		
443	PHYCOLOGY	4 credits
Prerequisite: 112 with a grade of C- or better. Examination of the major groups of algae with emphasis on life histories and their relationship to algal form and structure. Laboratory.		
444	FIELD MARINE PHYCOLOGY	3 credits

Prerequisite: 112 with a grade of C- or better. Collection and identification of tropical marine algae on San Salvador Island, The Bahamas. Discussion of characteristics and ecology of major groups of Caribbean algae. Laboratory.

451 GENERAL ENTOMOLOGY 4 credits

Prerequisites: 112 with a grade of C- or better, 217. Structure, physiology, life cycles, economic importance and characteristics of orders and major families of insects. Laboratories parallel lectures.

453 INVERTEBRATE ZOOLOGY 4 credits

Prerequisites: 112 with a grade of C- or better, 217. Invertebrate groups, their classification, functional morphology, adaptive radiation and life history. A phylogenetic approach is used. Laboratories parallel lectures.

454 PARASITOLOGY 4 credits

Prerequisites: 112 with a grade of C- or better. Principles of parasitism; host parasite interactions; important human and veterinary parasitic diseases; and control measures. Laboratories parallel lectures.

455 ICHTHYOLOGY 4 credits

Prerequisites: 217. Study of fishes; incorporates aspects of evolution, anatomy, physiology, natural history, and commercial exploitation of fishes. Laboratory incorporates field-based exercises and fish taxonomy.

456 ORNITHOLOGY 4 credits

Prerequisite: 112 with a grade of C- or better. Introduction to biology of birds: classification, anatomy, physiology, behavior, ecology, evolution, natural history and field identification. Laboratory and field trips.

457 HERPETOLOGY 4 credits

Prerequisite: 112 with a grade of C- or better. Survey of the diversity, ecology and evolution of amphibians and reptiles. Special emphasis is given to Ohio species. Laboratory.

458 VERTEBRATE ZOOLOGY 4 credits

Prerequisite: 316 or permission. Biology of vertebrates, except birds evolution, ecology, behavior, systematics and anatomy. Laboratory with field trips.

463 EXERCISE PHYSIOLOGY 3 credits

Prerequisite: 3100:363 or instructor permission. Through lecture, reading and critical analysis of current literature, physiologic mechanisms of exercise in animals will be explored.

465 ADVANCED CARDIOVAS PHYSIOLOGY 3 credits

Prerequisite: 202 or 363 or 473. Study of biological mechanisms involved in heart attack, strokes, fluid balance, hypertension and heart disease. Controversial issues in each area will be examined and current research presented.

466 VERTEBRATE EMBRYOLOGY 4 credits

478	RENAL PHYSIOLOGY	3 credits
Prerequisite: 112 with a grade of C- or better. The study of how the kidneys affect other body systems and how, in turn, they are affected by these systems.		
480	MOLECULAR BIOLOGY	3 credits
Prerequisite: 211 and 311. Fundamentals of molecular biology, including recombinant DNA technology, applications in biotechnology, medicine, and genetic engineering. Mechanisms of gene regulation.		
481	ADVANCED GENETICS	3 credits
Prerequisite: 211. Nature of the gene; genetic codes; hereditary determinants; mutagenesis and genes in population. Lecture and seminar.		
482	NEUROBIOLOGY	3 credits
Prerequisites: 111,112 with grades of C- or better. History of Neuroscience; organization, function and development of the central nervous system; electrophysiological properties of nerve cells; learning and memory; molecular basis for mental diseases.		
485	CELL PHYSIOLOGY	3 credits
Prerequisite: 112 with a grade of C- or better and 3150:401. Explores molecular and biochemical aspects of energy metabolism, inter and intracellular signaling, growth and death of cells. Emphasizes up-to-date scientific literature.		
486	CELL PHYSIOLOGY LABORATORY	1 credits
Prerequisite: 112 with a grade of C- or better and 3150:401. Corequisite: 485. Practice of modern cell physiology laboratory techniques. Emphasis on student directed original research.		
494	W: BIOLOGY	1-3 credits
(May be repeated) Prerequisite: permission of instructor. Group studies of special topics in biology. May not be used to meet undergraduate or graduate major requirements in biology. May be used for elective credit only.		
495	ST: BIOLOGY	1-3 credits
Prerequisite: permission. Special courses offered occasionally in areas where no formal course exists.		
496	INTERNSHIP IN BIOLOGY	1-3 credits
(May be repeated for maximum of 6 credits) Prerequisites: Permission of department and a minimum 3.0 GPA in Biology courses (20 credits minimum). Work experience to focus on career applications in Biology. Maximum 3 credits will count towards Biology electives.		
497	BIOLOGICAL PROBLEMS	1-3 credits

(May be repeated for a total of 6 credits) Permission; 2.0 GPA or better in Biology coursework; currently in the College of Arts & Sciences. Advanced level work, usually consisting of laboratory investigations. A maximum of 4 credits may apply toward the major degree requirements.

499

SR HONORS PROG IN BIOLOGY

1-3 credits

(May be repeated for a total of five credits) Prerequisites: senior standing in Honors College and approval of honors preceptor. Open only to biology and natural sciences divisional majors in Honors College. Independent study leading to completion of approved senior honors.

Course Details (3150)

100	CHEMISTRY & SOCIETY	3 credits
Qualitative introduction to chemistry using current world problems and commercial products, such as the ozone layer, nuclear fission, polymers and drugs, to introduce chemical principles.		
101	CHEMISTRY FOR EVERYONE	4 credits
Integrated, hands-on, laboratory instruction in the fundamental concepts of chemistry for general education and middle-level licensure for pre-service and in-service teachers.		
110	INTRO GEN ORGN & BIOCHEM I LEC	3 credits
Sequential. Introduction to principles of chemistry, fundamentals of inorganic, organic and biochemistry. Structure and chemistry of carbohydrates, lipids, proteins; biochemistry of enzymes, metabolism, radiation.		
111	INTRO GEN ORG & BIOCHEM I LAB	1 credits
Prerequisite/Corequisite: 3150:110. Sequential. Laboratory course applying principles of chemistry and fundamentals of inorganic, organic and biochemistry.		
112	INTRO GEN ORG & BIOCHEM II LEC	3 credits
Prerequisite: 110. Sequential. Introduction to principles of chemistry, fundamentals of inorganic, organic and biochemistry. Structure and chemistry of carbohydrates, lipids, proteins; biochemistry of enzymes, metabolism, radiation.		
113	INTRO GEN ORG & BIOCHEM II LAB	1 credits
Prerequisite/Corequisite: 3150:112. Sequential. Laboratory course applying principles of chemistry and fundamentals of inorganic, organic and biochemistry.		
151	PRINCIPLES OF CHEMISTRY I	3 credits
Prerequisite: placement in 3450:149 or higher or permission. Introduction to basic facts and principles of chemistry including atomic and molecular structure, states of matter and thermodynamics. For chemistry majors, pre-medical students and most other science majors. Discussion (day sections).		
152	PRINCIPLES OF CHEMISTRY I LAB	1 credits
Pre/Corequisite: 151, Laboratory course applying principles of thermodynamics, chemical analysis and laboratory practice.		
153	PRINCIPLES OF CHEMISTRY II	3 credits

		Prerequisite: 151. Continuation of 151, 152, including aqueous solution theory, chemical kinetics, equilibrium, electrochemistry and nuclear chemistry. For chemistry majors, premedical students and most other science majors. Discussion (day sections).
154	QUALITATIVE ANALYSIS	2 credits
		Prerequisite: 152; pre/corequisite: 153. Laboratory course applying principles of chemical equilibrium to inorganic qualitative analysis.
199	INTRO SEMINAR IN CHEMISTRY	1 credits
		Basic concepts in chemistry practice including written and oral communication skills, computer skills, professional ethics, environmental issues, chemical literature, degree options, and career considerations.
263	ORGANIC CHEMISTRY LECTURE I	3 credits
		Sequential. Prerequisite: 153 or permission. Structure and reactions of organic compounds, mechanism of reactions.
264	ORGANIC CHEM LECTURE II	3 credits
		Sequential. Prerequisite: 263 or permission. Structure and reactions of organic compounds, mechanism of reactions.
265	ORGANIC CHEMISTRY LAB I	2 credits
		Sequential. Prerequisite: 154; pre/corequisite: 263. Laboratory experiments to develop techniques in organic chemistry and illustrate principles. Discussion.
266	ORGANIC CHEMISTRY LAB II	2 credits
		Sequential. Prerequisite: 265. Laboratory experiments to develop techniques in organic chemistry and illustrate principles. Discussion.
305	PHYS CHEMISTRY FOR BIO SCIENCE	4 credits
		Prerequisites: 3150:264, 3450:222, 3650:262 or 3650:292. Chemical thermodynamics, kinetics, molecular structure and spectra. Accepted for the BS degree in Biochemistry.
313	PHYSICAL CHEMISTRY LECTURE I	3 credits
		Prerequisites: 264, 3450:223, 3650:291 or permission. Gases, thermodynamics, thermochemistry, solutions, dilute solutions, chemical equilibrium, phase rule, chemical kinetics, electrochemistry, electrolytic equilibria.
314	PHYSICAL CHEMISTRY LECTURE II	3 credits
		Prerequisites: 264, 3450:335, 3650:292 or permission of instructor. Atomic and molecular structure and spectroscopy.
370	BIOCHEMISTRY LABORATORY	2 credits

(May be repeated) Group studies of special topics in chemistry. May not be used to meet undergraduate or graduate major requirements in chemistry.

497	HONORS PROJECT IN CHEMISTRY	2 credits
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(May be repeated for a total of eight credits) Prerequisites: junior or senior standing in Honors College and permission of department honors preceptor. Independent research leading to completion of honors thesis under guidance of honors project adviser.

498	ST: CHEMISTRY	1-3 credits
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Special Topics in Chemistry.

499	RESEARCH PROBLEMS IN CHEMISTRY	1-2 credits
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(May be repeated for a total of eight credits) Prerequisite: permission. Assignment of special problems to student, designed as an introduction to research problems.

Course Details (3200)

220	INTRODUCTION TO ANCIENT WORLD	3 credits
Prerequisite: 3400:210 or 3400:221. Introduction to the civilizations of the Near East, Greece, and Rome, their cultural influences upon each other and their legacy to Europe.		
230	SPORTS & SOCIETY ANC GR & ROME	3 credits
Greek and Roman sports, games and festivals, from the Olympics to gladiatorial games as social phenomena; multimedia survey of the archaeology of ancient sport.		
289	MYTHOLOGY OF ANCIENT GREECE	3 credits
Myth, legend and folktale in ancient Greece, with attention to religion and the transmission of Greek myth to Rome and the West. No foreign language necessary.		
361	THE LITERATURE OF GREECE	3 credits
Prerequisite: 3400:210 or 3400:221. Major writers of ancient Greece and their influence on later European literature. No foreign language necessary. Required of majors.		
362	THE LITERATURE OF ROME	3 credits
Major writers of ancient Rome and their influence on later European literature. No foreign language necessary. Required of majors.		
363	WOMEN IN ANCIENT GREECE & ROME	3 credits
Examine women's lives in ancient Greece and Rome. Read their poetry, see them in ancient theatre, art, and philosophy, and in modern art and film.		
480	RDG & RSCH CLASSICAL STUDIES	1-3 credits
Prerequisite: permission of instructor. Directed reading and research for individual and small group study in any recognized area of classical studies.		
499	HONORS PROJECT IN CLASSICS	1-3 credits
(May be repeated for a total of six credits) Prerequisites: senior standing in Honors Program and permission. Independent study leading to completion of a senior honors thesis under the supervision of a member of the Department of Classics.		

Course Details (3230)

150	HUMAN CULTURES	3 credits
This course examines what culture is, how human cultures vary and how they change. We then explore opportunities/conflicts presented by contemporary human cultural issues.		
151	HUMAN EVOLUTION	4 credits
Study of biological evolution of Homo Sapiens, including primate comparisons and cultural development. One-hour laboratory using interactive computer programs, casts and Anthropology's cultural collection.		
251	HUMAN DIVERSITY	3 credits
This course examines human diversity in global perspective by considering how and why human beings vary physically and ways categories of difference are culturally constructed.		
304	PRIMATES: BEH, MORPHO & EVOLUT	3 credits
Prerequisite: 151. Extant primate diversity, behavior, morphology and primate paleontology.		
310	HUMAN PALEON:THE AUSTRALOPITH	3 credits
Prerequisite: 151. A study of the fossil record of the earliest hominids of the Miocene and Pliocene epochs.		
311	HUMAN PALEONTOLOGY: GENUS HOMO	3 credits
Prerequisite: 151. The origins of the Genus Homo and the evolution of anatomically modern Homo sapiens.		
340	PALEODEMOGRP & HUMAN OSTEOLOGY	3 credits
Prerequisites: 150, 151, 3240:100 or instructor's permission. An intensive study of bone, bone growth, and the human skeleton; ageing and sexing techniques; application of demographic techniques to paleoanthropological populations.		
357	MAGIC, MYTH, & RELIGION	3 credits
Prerequisite: 150 or 3850:100. Analysis and discussion of the data concerning the origins, roles and functions of magic and religion in a broad range of human societies, with emphasis on the non-Western, pre-industrial societies. Examination of belief and ritual systems of such societies.		
358	INDIANS OF NORTH AMERICA	3 credits
Prerequisite: 150 or permission. Ethnographic survey of native cultures of North America, with emphasis on variations in ecological adaptations, social organization and modern American Indians in anthropological perspective. Lecture.		
359	ANTHROPOLOGICAL THEORY	3 credits

Prerequisites: 150, 151 or permission of instructor. Advanced seminar addressing the history of anthropological theory and current theoretical debates within the discipline.

370 GLOBALIZATION AND CULTURE 3 credits

Prerequisite: 150 or 3850:100. A critical examination of socio-cultural processes of globalization that serve to complicate conventional notions of culture. Emphasizes how globalization affects a range of local places.

397 ANTHROPOLOGICAL RESEARCH 1-3 credits

(May be repeated) Prerequisite: permission. Individual study of problem areas of specific interest to an individual student under guidance of a faculty member.

398 INTRO: ANTHROPOLOGICAL DATA 3 credits

Prerequisite: 150, 151 and 3240:100. This course focuses on the characteristics of anthropological evidence through hands-on activities and examination of the uses of data in published works.

400 SEM: HUMAN ORIGINS 3 credits

Prerequisites: 151 and 6 credit hours of 300-400 courses in biological anthropology. Advanced seminar addressing current discoveries and theoretical issues in human paleontology. Content varies by semester.

401 HIST OF PHYSICAL ANTHROPOLOGY 3 credits

Prerequisites: 151 and 310 or 311 or instructor's permission. History of evolutionary theory pertaining to the biological origins of humans covering pre-Darwinian thought to the most recent fossil discoveries.

410 EVOLUTION & HUMAN BEHAVIOR 3 credits

Prerequisite: 151. Critical examination of the theory of natural selection and its usefulness for understanding the origins and evolution of early hominid and modern human social behavior.

416 ANTHROPOLOGY OF SEX & GENDER 3 credits

Prerequisites: 150 or 3850:100. This course explores cross-cultural variation regarding sex, gender and sexuality. It examines the ways that cultures create, maintain and reproduce gender concepts and gender relations.

420 THE ANTHROPOLOGY OF FOOD 3 credits

Prerequisite: 150 or permission. Utilizing anthropological approaches and theories, this course explores the social relations and cultural beliefs associated with food cross-culturally.

455 CULTURE & PERSONALITY 3 credits

Prerequisite: 150 or permission. Examination of functional and casual relationships between culture and individual cognition and behavior. Lecture.

457 MEDICAL ANTHROPOLOGY 3 credits

Prerequisite: 150 or permission of instructor. Analyzes various aspects of Western and non-Western medical systems from an anthropological perspective. Compares traditional medical systems around the world.

460 FIELD METHODS IN CULTURAL ANTH 4 credits

Prerequisite: 150 or permission of instructor. Community-based research and service-learning course in which students design and undertake a project. Addresses ethics, data collection, management and analysis in collaboration with community partners.

463 SOCIAL ANTHROPOLOGY 3 credits

Prerequisite: 150 or permission. Comparative structural analysis of non-Western systems of kinship and social organization in terms of status, role, reciprocal expectation, nomenclature, nuclear and extended households and other kinship groupings. Lecture.

470 RES METH: SOCIAL SCI PROSEM 3 credits

Pre-requisite: Completion of required coursework for the Research Methods Certificate Program or Permission of Instructor. Application of qualitative and/or quantitative research methods and analysis, and preparation of a scholarly research paper for presentation and/or publication. Seminar.

472 ST: ANTHROPOLOGY 3 credits

(May be repeated) Prerequisites: 150 and permission. Designed to meet needs of student with interests in selected topics in anthropology. Offered irregularly when resources and opportunities permit. May include archaeological field school, laboratory research or advanced course work not presently offered by department on regular basis.

474 ST: BIOLOGICAL ANTHROPOLOGY 3 credits

Prerequisite: 151. Advanced topics in biological anthropology, human paleontology and primate behavioral ecology. May be repeated, but no more than six credits can be applied towards the major in Interdisciplinary Anthropology.

494 W: ANTHROPOLOGY 1-3 credits

(May be repeated) Group studies of special topics in anthropology. May not be used to meet departmental undergraduate or graduate major requirements. May be used for elective credit only.

497 SR HONORS PROJECT:ANTHROPOLOGY 3 credits

The topic and scope of this individually chosen project is directed by an Anthropology faculty member in conjunction with Honors College preceptors under the guidelines of the Honors College

Course Details (3240)

100	INTRODUCTION TO ARCHAEOLOGY	3 credits
Introduction to the study of ancient cultures based on material remains. Course covers basic archaeological concepts and tools, types of data and interpretation.		
101	CASE STUDY	1 credits
A series of one-credit modules designed to introduce specific topics of archeological interest to the non-specialist.		
105	THE INCAS	1 credits
Rise and fall of the Inca empire of South America. Topics include: politics, ideology, daily life and methods of recovering and interpreting archaeological data.		
106	THE MAYA	1 credits
Rise and fall of the Maya civilization of Mesoamerica. Topics include: politics, ideology, daily life and methods of recovering and interpreting archaeological data.		
107	ARCHAEOLOGY OF PETS	1 credits
A look at pets from earliest times to the present and how the keeping of pets leads to the domestication of animals.		
108	WORLD OF HOMER	1 credits
Examination of Greek Bronze and Iron Age material culture and its possible relationship to the works of the poet Homer.		
109	THE ASSYRIANS	1 credits
Examines archaeological and textual evidence for the emergence of the Assyrian Empire, its expansion and collapse. Topics include: Assyrian art and architecture, warfare, and literature.		
110	THE SUMERIANS	1 credits
Examines archaeological and textual evidence for the emergence and flourishing of Sumerian civilization. Topics include: Sumerian religion, art, architecture and literature.		
111	ARCHAEOLOGY OF SLAVERY	1 credits
An examination of slavery as an institution on a worldwide basis from earliest times to the 19th century through archaeology.		
112	THE AZTECS	1 credits

A discussion of the Aztec civilization, politics, ideology, and daily life will illustrate how archaeologists recover and interpret data on Aztec culture.

113 RELIGION BEFORE THE BIBLE 1 credits

Examination of archaeological evidence for the emergence of humanity's first religious practices from Paleolithic shamanism to early monotheistic traditions in the Near East and Europe.

150 TIME BEFORE HISTORY 3 credits

Survey of world prehistory from the first appearance of anatomically modern humans to the rise of state-level societies from an archaeological perspective. Web Components.

300 HISTORICAL ARCHAEOLOGY 3 credits

This course explores recent developments in historical archaeology and how material culture can be used to study race, class, gender, and ethnic identities.

313 ARCHAEOLOGY OF GREECE 3 credits

The ruins and monuments of Greece; history reconstructed by examination of the material remains. No foreign language necessary.

314 ARCHAEOLOGY OF ROME 3 credits

The ruins and monuments of Rome; history reconstructed by examination of the material remains. No foreign language necessary.

345 EGYPTOLOGY 3 credits

Introduction to ancient Egyptian civilization, with emphasis on sites and artifacts representative of socio-political and ideological transformations from the Prehistoric through Ptolemaic Periods.

360 ANCIENT N-E ARCHAEOLOGY 3 credits

General survey of the archaeological material culture and written history of the ancient Near East. Covers principal human achievements from the Paleolithic to Alexander's conquest.

400 ARCHAEOLOGICAL THEORY 3 credits

Prerequisite: 100. Advanced seminar covering history of scientific archaeological exploration, major theoretical paradigms and current trends in archaeology. Required for Certificate in Field Archaeology.

410 ARCHAEOGEOPHYSICAL SURVEY 3 credits

Prerequisite: 100 or 3370:101 or 3350:310. Advanced instruction in principles of subsurface geophysical survey techniques in archaeology. Emphasizes magnetic gradiometry and electrical resistivity techniques. Includes both laboratory and fieldwork.

420 ARCHAEOLOGY OF OHIO 3 credits

Prerequisite: 100. Provides a detailed overview of Ohio's prehistoric cultures and the early historic period focusing on cultural evolution and environmental relationships.

440	ARCHAEOLOGICAL LAB METHODS	3 credits
Prerequisite: 100. Laboratory processing and study of lithic, ceramic, paleofaunal, paleobotanical, metallic, archaeological materials. Emphasis varies with instructor expertise. Involves instrumental or statistical analysis.		
450	ARCHAEOLOGICAL FIELD SCHOOL	1-6 credits
Prerequisite: 100 or permission. A field-based course teaching based archaeological techniques, mapping, excavation of prehistoric and historic sites, survey and documentation. (May be repeated for a maximum of 6 credits.)		
472	ST: ARCHAEOLOGY	1-6 credits
Prerequisite: 100 or permission. Designed to meet needs of students with interests in selected topics in archaeology. May include fieldwork, laboratory research or advanced courses not regularly offered. (May be repeated for up to six credits.)		
499	SR HONORS PROJ: ARCHAEOLOGY	1-6 credits
Prerequisite: Permission of instructor. Student-designed archaeology project directed by an Archaeology faculty member in conjunction with Honors College preceptors under the guidelines of the Honors College. (May be repeated for a maximum of six credits.)		

Course Details (3250)

100	INTRODUCTION TO ECONOMICS	3 credits
May not be substituted for 200, 201, 244. Economics primarily concerned in a broad social science context. Adequate amount of basic theory introduced. Cannot be used to satisfy major or minor requirements in economics.		
200	PRINCIPLES OF MICROECONOMICS	3 credits
Analysis of behavior of the firm and household, and their impact on resource allocation, output and market price. No credit if 244 already taken.		
201	PRINCIPLES OF MACROECONOMICS	3 credits
Prerequisite: 200. Study of the economic factors which affect the price level, national income, employment, economic growth. No credit if 244 already taken.		
226	COMPUTER SKILLS FOR ECON ANALYS	3 credits
Prerequisites: 100 or 200 or 244. Application of word processing, spreadsheets, presentation packages, SAS, the Internet, library resources, and other computer tools in communicating economic analysis.		
230	ECON OF SOCIAL POLICY ISSUES	3 credits
Prerequisite: 100, or 200 and 201, or 244 or permission of the instructor. Investigation of selected labor and social policy issues. Examples include health care, economic demography, anti-poverty programs, immigration, discrimination, and the impact of unemployment and inflation.		
244	INTRODUCTION ECONOMIC ANALYSIS	3 credits
Recommended for engineering and mathematical science majors. Intensive introduction to analysis of modern industrial society and formulation of economic policy. Structure of economic theory and its relation to economic reality. No credit to a student who has completed 200, 201.		
310	MANAGERIAL ECONOMICS	3 credits
Prerequisites: 200 or 244, 3470:261, 3470:262. Application of economic analysis to management problems; the organization of enterprises and the allocation of their resources; decision making under uncertainty; strategic behavior.		
330	LABOR PROBLEMS	3 credits
Prerequisites: 200 or 201 or 244. Labor economics, principles and public policy. Study of structure of labor market and impact unions have on labor management relations.		
333	LABOR ECONOMICS	3 credits

Prerequisite: 200 or 244. Theoretical tools used in analysis of problems of labor in any modern economic system. Emphasis given to examination of determinants of demand for and supply of labor.		
360	INDUSTRL ORGAN & PUBLIC POLICY	3 credits
Prerequisites: 200 or 244. Role of industrial structure and firm conduct in performance of industry and way in which antitrust policy is designed to provide remedies where performance is unsatisfactory.		
380	MONEY & BANKING	3 credits
Prerequisite: 201. Institutions of money, banking and credit, monetary expansion and contraction, public policies affecting this process, development of our money and banking system.		
385	ECON NATURAL RESOURCES & ENVIR	3 credits
Prerequisites: 100 or 200 or 244 or permission. Introduction to economic analysis of use of natural resources and economics of environment. Problems of water and air pollution, natural environments, natural resource scarcity, conservation, economic growth.		
400	INTERMEDIATE MACROECONOMICS	3 credits
Prerequisites: 201 and 3450:145 or equivalent. Changes in national income, production, employment, price levels, long-range economic growth, short-term fluctuations of economic activity.		
405	ECONOMICS OF THE PUBLIC SECTOR	3 credits
Prerequisites: 200 and 201, or 244. Considers nature and scope of government activity, rationale for government intervention, problems of public choice, taxation and revenue-raising, cost-benefit analysis, program development and evaluation.		
406	STATE & LOCAL PUBLIC FINANCE	3 credits
Prerequisite: 410; recommended: 405. Examines economic rationale and problems for provision of goods and services by different governmental units. Considers alternative revenue sources and special topics.		
410	INTERMEDIATE MICROECONOMICS	3 credits
Prerequisites: 200 or 244, and 3450:145 or equivalent. Advanced analysis of consumer demand, production costs, market structures, determinants of factor income.		
415	COST-BENEFIT ANALYSIS	3 credits
Prerequisites: 200 and 201 or 244 or permission of instructor. Introduction to tool for public project evaluation. Includes development of analytical framework and methods of determining benefits and costs over time. Stresses application of techniques.		
423	APPLIED GAME THEORY	3 credits
Prerequisite: 200. Application of the basic concepts of game theory (analysis of strategic behavior) to relevant economics issues including bargaining, cartels, voting, conflict resolution and non-competitive pricing.		

426	APPLIED ECONOMETRICS	3 credits
Prerequisite: 200 and 201 or 244; 3470:261, 262. Application of regression analysis to economic and social sciences data. Discusses typical problems from applied research, including estimation technique, hypothesis testing, and modeling framework.		
427	ECONOMIC FORECASTING	3 credits
Prerequisite: 200 and 201 or 244; 3470:261, and 262. Methods for building, identifying, fitting and checking dynamic economic models and use of these models for forecasting. Emphasis on application of available computer software systems.		
430	LABOR MARKET & SOCIAL POLICY	3 credits
Prerequisite: 200 and 201 or 244 or permission of instructor. Intensive study of current labor and social policy issues (e.g., discrimination, poverty, migration, education, demographic and labor market changes, impact of international trade on employment).		
432	ECON & PRACT COLLECT BARGAIN	3 credits
Prerequisite: 200 or 244. Principles and organization of collective bargaining, collective bargaining agreements, issues presented in labor disputes and settlements, union status and security, wage scales, technological change, production standards, etc.		
434	LABOR MARKET ANALYSIS & EVAL	3 credits
Prerequisites: 410, 426, 430. Applied labor market research using specialized techniques. Employment, health, education, and other current policy issues and programs analyzed and evaluated. Original research project required.		
436	HEALTH ECONOMICS	3 credits
Prerequisites: 100 or 200 or 244 or permission of instructor for 436. Economic analysis of health care. Stresses health policy issues, includes study of demand and supply of medical services and insurance, analysis of health care industries.		
438	ECONOMICS OF SPORTS	3 credits
Prerequisites: 100 or 200 or 244 or permission of instructor. Sports franchises as profit maximizing firms; costs and benefits of a franchise to a city; labor markets in professional sports; the economics of college sports.		
440	ST: ECONOMICS	3 credits
Prerequisite: permission. Opportunity to study special topics and current issues in economics.		
460	ECON OF DEVELOPING COUNTRIES	3 credits
Prerequisites: 200 and 201, or 244. Basic problems in economic development. Theories of economic development, issues of political economy and institutions. Topics include poverty, population, migration, employment, finance, international trade and environment.		

461	PRINC INTERNATIONAL ECONOMICS	3 credits
Prerequisites: 200 and 201, or 244; or permission of the Economics department. International trade and foreign exchange, policies of free and controlled trade, international monetary problems.		
475	DEVELOPMNT OF ECONOMIC THOUGHT	3 credits
Prerequisites: 200 and 201, or 244; or permission of the Economics department. Evolution of theory and method, relation of ideas of economists contemporary to conditions.		
481	MONETARY & BANKING POLICY	3 credits
Prerequisites: 380, 400; or permission of the Economics department. Control over currency and credit, policies of control by central banks and governments, United States Treasury and Federal Reserve System.		
487	URBAN ECON: THEORY & POLICY	3 credits
Prerequisite: 200 and 201 or 244 or permission of instructor. Analysis of urban issues from an economic perspective. Emphasis on urban growth, land-use patterns, housing, income distribution, poverty and urban fiscal policy.		
490	INDIVIDUAL STUDY IN ECONOMICS	1-3 credits
(May be repeated for a total of six credits) Prerequisite: permission of instructor. Independent study in economics under supervision and evaluation of selected faculty member.		
491	W: ECONOMICS	1-3 credits
(May be repeated) Prerequisite: permission of the Economics department. Group studies of special topics in economics. May not be used to meet undergraduate or graduate major requirements in economics. May be used for elective credit only.		
495	INTERNSHIP IN ECONOMICS	1-3 credits
Prerequisites: 200, 201 and at least three additional courses in economics at the 300- or 400-level. Supervised placement in appropriate position in public or private sector organizations. Reports and written assignments required.		
496	SENIOR PROJECT IN ECONOMICS	2 credits
Prerequisites: 400, 410, 426. Corequisites: 405 or 423 or 430 or 460 or 461 or 475 or 481 or 487. Taken concurrently with or following a 400-level field Economics course. Involves independent out-of-class work on a project designed in consultation with the designated 400-level course instructor.		
497	HONORS PROJECT IN ECONOMICS	1-3 credits
(May be repeated for a total of six credits) Prerequisite: senior standing in Honors College. Individual senior honors thesis on a creative project relevant to economics, approved and supervised by faculty member of the department.		

Course Details (3300)

110	ENGLISH COMPOSITION I + WRKSHP	4 credits
Prerequisite: Placement. Extensive and varied experience in developing writing skills, with practice in expressive, reflective, and analytic forms of writing. Includes one credit, support-intensive workshop.		
111	ENGLISH COMPOSITION I	3 credits
Extensive and varied experience in developing writing skills, with practice in expressive, reflective, and analytic forms of writing.		
112	ENGLISH COMPOSITION II	3 credits
Prerequisites 110 or 111 or 113 or 2020:121. Designed to develop skills in analyzing and writing persuasive arguments.		
113	AFR AM LANG & CULTURE I:C CMP	3 credits
Discussion, argumentation, and writing related to African American culture and language. An option to 3300:111 English Composition I. Open to all students.		
114	AFR AM LNG & CULTURE II:C CMP	3 credits
Prerequisites: 110 or 111 or 113 or 2020:121. Composition and discussion topics focus on the structure, history, and culture of African American English. An option to 3300:112 English Composition II. Open to all students.		
250	CLASSIC & CONTEMPORARY LIT	3 credits
Prerequisites: 111 and 112 or their equivalents, and 3400:210 or 221, or permission of the instructor. Close reading and analysis of fiction, poetry, and drama from the evolving canon of American, British, and World literature. This course fulfills the General Education Humanities Requirement. It cannot be used to meet requirements in English.		
252	SHAKESPEARE & HIS WORLD	3 credits
Prerequisites: 111 and 112 or their equivalents, and 3400:210 or 221. An introduction to the works of Shakespeare and their intellectual and social contexts. Each section "places" Shakespeare through compact readings of works by the playwright's contemporaries. This course fulfills the General Education Humanities Requirement. It cannot be used to meet requirements in English.		
275	SPECIALIZED WRITING	3 credits
Prerequisite: Completion of 111 and 112 or their equivalents, or permission of the instructor. (May be repeated for different topics, with permission) Principles and practice of style, structure and purpose in writing, with special applications to writing demands of a specific career area.		

276	INTRO CREATIVE NONFICTION WRTG	3 credits
Prerequisites: 111 and 112 or their equivalents, or permission of instructor. This course introduces the techniques of Creative Nonfiction through writing exercises that give experience with the form.		
277	INTRODUCTION TO POETRY WRITING	3 credits
Prerequisite: Completion of 111 and 112 or their equivalents, or permission of the instructor. Practice in writing poems. Study of techniques in poetry, using contemporary poems as models. Class discussion of student work. Individual conferences with instructor to direct student's reading and writing.		
278	INTRO TO FICTION WRITING	3 credits
Prerequisite: Completion of 111 and 112 or their equivalents, or permission of the instructor. Practice in writing short stories. Study of various techniques in fiction, using contemporary stories as models. Class discussion of student work. Individual conferences with instructor to direct student's reading and writing.		
279	INTRODUCTION TO SCRIPT WRITING	3 credits
Prerequisite: Completion of 111 and 112 or their equivalents, or permission of the instructor. Practice in writing scripts. Study of various techniques in script writing, using contemporary models for study. Class discussion of student work. Individual conferences with instructor to direct student's reading and writing.		
280	POETRY APPRECIATION	3 credits
Prerequisite: Completion of 111 and 112 or their equivalents, or permission of the instructor. Close reading of a wide selection of British and American poems with emphasis on dramatic situation, description, tone, analogical language, theme and meaning.		
281	FICTION APPRECIATION	3 credits
Prerequisite: Completion of 111 and 112 or their equivalents, and 3400:210 or 221. Close reading of modern masters of short story and novel. Fulfills the General Education Humanities Requirement. It cannot be used to meet requirements in English.		
283	FILM APPRECIATION	3 credits
Prerequisite: Completion of 111 and 112 or their equivalents, or permission of the instructor. Introduction to dramatic choices made by filmmakers in scripting, directing, editing and photographing narrative films; and qualities of reliable film reviews.		
300	CRITICAL READING & WRITING	3 credits
Prerequisite: Completion of 111 and 112 or their equivalents, or permission of the instructor. An introduction to English studies, focusing on critical methods for reading and writing about literature, with attention to research skills and uses of computer technology.		
301	ENGLISH LITERATURE I	3 credits

Prerequisite: Completion of 111 and 112 or their equivalents, or permission of the instructor. Studies in English literature from Old English to 1800, with emphasis upon specific representative works and upon the cultural and intellectual background which produced them. Literature to be read will include both major and minor poetry, prose and drama.

315 SHAKESPEARE: THE EARLY PLAYS 3 credits

Prerequisite: Completion of 111 and 112 or their equivalents, or permission of the instructor. Introduction to early drama of Shakespeare with close reading of tragedies, histories and comedies. Includes explanatory lectures of both the plays and their backgrounds.

316 SHAKESPEARE: THE MATURE PLAYS 3 credits

Prerequisite: Completion of 111 and 112 or their equivalents, or permission of the instructor. Study of Shakespeare's plays after 1598, beginning with mature comedies. Concentration on major tragedies and romances.

341 AMERICAN LITERATURE I 3 credits

Prerequisite: Completion of 111 and 112 or their equivalents, or permission of the instructor. Historical survey of major and minor American writers to 1865.

350 BLACK AMERICAN LITERATURE 3 credits

Prerequisite: Completion of 111 and 112 or their equivalents, or permission of the instructor. Survey of representative black American writers from the 19th Century to present, with particular attention to historical and social backgrounds.

360 OLD TESTAMENT AS LITERATURE 3 credits

Prerequisite: Completion of 111 and 112 or their equivalents, or permission of the instructor. History of Hebrews to 586 B.C., as revealed through epic, fiction, saga and poetry, viewed against background of the Asian World.

361 THE NEW TEST AND APOC AS LIT 3 credits

Prerequisite: Completion of 111 and 112. These two bodies of literature read with emphasis on form of gospel and epistle, and concept of apocalypse. Both are viewed against their historical and social backgrounds.

362 WORLD LITERATURES 3 credits

The course is a study of short fiction, poems, plays, and novels of the non-Western world from early antiquity to the present.

364 WOMEN WRITERS 3 credits

Prerequisite: 112 or equivalent, or permission of instructor. A study of the diverse voices of female experiences through literature written by women.

366 EUROPE BKGD ENGLISH LITERATURE 3 credits

Prerequisite: Completion of 111 and 112 or their equivalents, or permission of the instructor.

Representative continental texts from Homer to Cervantes, selected both for their excellence and for their important influence on English and American literature.

371 INTRODUCTION TO LINGUISTICS 3 credits

Prerequisite: Completion of 111 and 112 or their equivalents, or permission of the instructor. Scientific introduction to the study of written and spoken linguistic behavior in English. History of English, varieties of English, and acquisition of English also introduced.

376 LEGAL WRITING 3 credits

Prerequisite: Completion of 111 and 112 or their equivalents, or permission of the instructor. Intensive practice in writing for prelaw students through assignments based on actual legal situations and real cases. Particular attention to stating legal issues, writing persuasively, applying rules of law, and other topics that will help those preparing for law school and the profession.

377 ADVANCED POETRY WRITING 3 credits

Prerequisites: 277, and 111 and 112 or their equivalents, or permission of the instructor. Advanced practice in writing poems, emphasis on shaping publishable works. Survey of market. Class discussion of student poems; individual conference with instructor.

378 ADVANCED FICTION WRITING 3 credits

Prerequisites: 278, and 111 and 112 or their equivalents, or permission of the instructor. Advanced practice in writing short stories, emphasis on shaping publishable works. Survey of market. Class discussion of student stories; individual conference with instructor.

379 ADVANCED SCRIPT WRITING 3 credits

Prerequisites: 112, 279 or equivalents, or permission of instructor. This course focuses on writing for the screen and developing the visual imagination.

380 FILM CRITICISM 3 credits

Prerequisite: Completion of 111 and 112 or their equivalents, or permission of the instructor. Application of literary critical theory to the study of film.

381 ADV CREATIVE NONFICTION WRITNG 3 credits

Prerequisite: 276 or permission of instructor. This course advances student practice in the craft of Creative Nonfiction through writing exercises and workshop sessions.

389 ST: LITERATURE & LANGUAGE 3 credits

Prerequisite: Completion of 111 and 112 or their equivalents, or permission of the instructor. (May be repeated for credit as different topics are offered). Traditional and nontraditional topics in English literature and language, supplementing course listed in this General Bulletin, generally constructed around theme, genre and language study.

390 PROFESSIONAL WRITING I 3 credits

Prerequisite: Completion of 111 and 112 or their equivalents, or permission of the instructor. Designed to help prepare student for a career as professional business writer. Stresses theory and practice of written and oral communication in business organization. Individual and group performance, relating to communication theories, concepts of semantics. Functional writing as well as special needs of business are illustrated by actual cases. Adapting style and organization is practiced.

391 PROFESSIONAL WRITING II 3 credits

Prerequisite: Completion of 111 and 112 or their equivalents, or permission of the instructor. Designed to help prepare student for a career as professional technical writer. Covers principles and practices concerning editing company technical communications, such as specifications, annual reports, promotional brochures for technical products, services, scientific abstracts, proposals. Also treats problems of adapting materials to formats, graphic display of technical information, adaptation of technical material to nontechnical reader.

392 INTERNSHIP IN ENGLISH 1-3 credits

Prerequisite: Minimum GPA of 2.5, permission of the instructor. (May be repeated for a maximum of six credits.) Critical reading and writing focused on career applications of the discipline of English. May count up to three credit hours toward the English major.

399 THE GOTHIC IMAGINATION 3 credits

Prerequisite: Completion of 111 and 112. A loosely chronological study of major British, American, and European authors in the Gothic tradition. Focus on the literary conventions of Gothic fiction, to the "popular" nature of the literature and to its major themes/motifs.

400 ANGLO SAXON 3 credits

Prerequisite: Completion of 111 and 112 or their equivalents, 64 credits or permission of the instructor. Studies in Old English language and Old English prose and poetry, including Beowulf.

403 DEVELOPMNT OF ARTHURIAN LEGEND 3 credits

Prerequisite: Completion of 111 and 112 or their equivalents, 64 credits or permission of the instructor. Traces evolution of Arthurian materials from 540 to 1500 and beyond, with emphasis on characters, themes, events and treatments.

406 CHAUCER 3 credits

Prerequisite: Completion of 111 and 112 or their equivalents, 64 credits or permission of the instructor. Close study of Chaucer's major works The Canterbury Tales and Troilus and Criseyde in Middle English.

407 MIDDLE ENGLISH LITERATURE 3 credits

Prerequisite: Completion of 111 and 112, 64 credits or permission. Study of genres, topics, styles and writers of the Middle English literary works from 12th to 15th Centuries. Readings in Middle English.

424 EARLY ENGLISH FICTION 3 credits

Prerequisite: Completion of 111 and 112, 64 credits or permission. Development of English novel before 1830. Focus on works of Defoe, Richardson, Fielding, Smollett, Sterne, Austen and Scott.

425	STUDIES IN ROMANTICISM	3 credits
Prerequisite: Completion of 111 and 112 or their equivalents, 64 credits or permission of the instructor. Literary, philosophical, psychological and social revolutions of romantic period as reflected in works of such major writers as Wordsworth, Byron and Keats.		
430	VICTORIAN POETRY & PROSE	3 credits
Prerequisite: Completion of 111 and 112 or their equivalents, 64 credits or permission of the instructor. Poetry, prose of the late 19th Century, excluding fiction, with attention to Tennyson, Browning, Arnold, Carlyle, Ruskin and other major writers.		
431	VICTORIAN FICTION	3 credits
Prerequisite: Completion of 111 and 112 or their equivalents, 64 credits or permission of the instructor. Reading of at least five major novels of Victorian era, of varying length, by Emily Bronte, Dickens, Eliot, Thackeray and Hardy. Characterization, theme and attitude toward life emphasized.		
435	20TH CENTURY BRITISH POETRY	3 credits
Prerequisite: Completion of 111 and 112 or their equivalents, 64 credits or permission of the instructor. Concentrated study of major poems of Yeats, Eliot and Auden, with attention also to Hardy, Housman, Spender, C. Day Lewis, Dylan Thomas and others.		
436	BRITISH FICTION: 1900-1925	3 credits
Prerequisite: Completion of 111 and 112 or their equivalents, 64 credits or permission of the instructor. Study of Conrad, Joyce, D. H. Lawrence and Virginia Woolf, with attention to their innovations in narrative and style, their psychological realism and symbolism. Brief consideration of other important fiction writers of the period, including Wells, Bennett and Mansfield.		
437	BRITISH FICTION SINCE 1925	3 credits
Prerequisite: Completion of 111 and 112 or their equivalents, 64 credits or permission of the instructor. Study of important British novelists since 1925, excluding Lawrence, Joyce and Woolf. Attention to development of British short story from 1925 to present.		
440	WOMEN AND FILM	3 credits
Prerequisites: 111, 112 or equivalents, 64 credits or permission of instructor. This course explores representations of the feminine and treatments of gender issues in mainstream Hollywood films within a critical framework of feminist film theory.		
448	AMERICAN ROMANTIC FICTION	3 credits
Prerequisite: Completion of 111 and 112 or their equivalents, 64 credits or permission of the instructor. Examination of early American fiction, tracing its genesis, romantic period and germinal movements toward realism. Writers discussed include Cooper, Poe, Hawthorne and Melville.		
449	AMER FICT: REALISM & NATURAL	3 credits

Prerequisite: Completion of 111 and 112 or their equivalents, 64 credits or permission of the instructor. Examination of American writers of realistic and naturalistic fiction (e.g., Howells, James, Crane, Dreiser), tracing developments in American fiction against background of cultural and historical change.		
450	MODERN AMERICAN FICTION	3 credits
Prerequisite: Completion of 111 and 112 or their equivalents, 64 credits or permission of the instructor. Study of significant American short and long fiction from World War I to the present.		
451	AMERICAN POETRY TO 1900	3 credits
Prerequisite: Completion of 111 and 112 or their equivalents, 64 credits or permission of the instructor. Survey of American poetry of the 17th, 18th and 19th Centuries.		
452	MODERN AMERICAN POETRY	3 credits
Prerequisite: Completion of 111 and 112 or their equivalents, 64 credits or permission of the instructor. Survey of 20th Century American poetry beginning with Edwin Arlington Robinson and ending with contemporary poets.		
453	AMERICAN WOMEN POETS	3 credits
Prerequisite: Completion of 111 and 112, 64 credits or permission. Study of modern poets' uses and revisions of tradition, women's relationships, conceptions of art and of the artist-as-woman, and the debate between "public" and "private" poetry.		
454	20TH CENTURY AMERICAN DRAMA	3 credits
Prerequisite: Completion of 111 and 112 or their equivalents, 64 credits or permission of the instructor. Examination of major, established playwrights (including O'Neill, Miller and Williams) and sampling of new and rising ones.		
455	THE AMERICAN SHORT STORY	3 credits
Prerequisite: Completion of 111 and 112 or their equivalents, 64 credits or permission of the instructor. A study of the development of the short story as a particularly American genre, from Washington Irving to the present.		
456	THOREAU, EMERSON & THEIR CIRCLE	3 credits
Prerequisite: 64 credits or permission. A study of work and life of Henry David Thoreau, Ralph Waldo Emerson, and other key figures of the American Renaissance.		
457	WRITERS ON WRITING	3 credits
Prerequisite: Completion of 111 and 112 or their equivalents, 64 credits including 111 and 112 or permission of the instructor. A close look at what established writers have to say about the process of writing. Students write response essays and take exams on readings.		
460	FILM AND LITERATURE	3 credits

Prerequisite: Completion of 111 and 112 or their equivalents, 64 credits including 111 and 112 or permission of the instructor. Second language acquisition theories and teaching methodologies surveyed. Second language teaching principles from research in linguistics, psycholinguistics, and second language pedagogy explored.		
474	AFRICAN AMERICAN ENGLISH	3 credits
Prerequisite: 64 credits or permission. African American English grammatical structure, pronunciations, origins, and cultural role. Comparisons with academic English. Discussion of language correctness, legal status, and role in education.		
475	THEORY OF RHETORIC	3 credits
Prerequisite: Completion of 111 and 112 or their equivalents, 64 credits or permission of the instructor. Ancient and modern theories of rhetoric, with attention to classical oration, "topics" of rhetoric and their application to teaching of English.		
477	SOCIOLINGUISTICS	3 credits
Prerequisite: Completion of 111 and 112 or their equivalents, or permission of the instructor. Major sociolinguistic concepts and methodology examined, as well as relationships between language, socio-cultural factors, and education. Issues of Standard English, power, and gender also examined.		
478	GRAMMATICAL STRUCT OF MOD ENGL	3 credits
Prerequisite: Completion of 111 and 112 or their equivalents, 64 credits including 111 and 112 or permission of the instructor. Contemporary understanding of Modern English sentence structure: parts of speech, sentence types, phrase types, modification, coordination and subordination, parentheticals. Traditional grammar and sentence rhetoric discussed.		
479	MANAGMENT REPORTS	3 credits
Prerequisites: completion of 111, 112 or their equivalents, 64 credits or permission of instructor. Study of principles and writing practice in effective business style, specialized structure, and purpose for business reports.		
482	SENIOR HONORS PROJECT: ENGLISH	1-3 credits
(May be repeated for a total of six credits). Prerequisites: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor, senior standing in Honors College and approval of honors preceptor; open only to English majors enrolled in Honors College. Independent study leading to completion of senior honors thesis or other original work.		
484	FANTASY	3 credits
Prerequisite: Completion of 111 and 112 or their equivalents, 64 credits or permission of the instructor. A study of forms of literature, primarily fiction, based on and controlled by an overt violation of what is generally considered as possibility.		
485	SCIENCE FICTION	3 credits

Prerequisite: 64 credits or permission. A study of twentieth-century British and American science fiction, featuring primary forms of the science fiction story and the work of major authors.

486 LEARNER ENGLISH 3 credits

Prerequisite: Completion of 111 and 112 or their equivalents, or permission of the instructor. Introduction to tools for and practice in analyzing second language learners' production of English. Theory and practice of teaching oral and written English also covered.

487 FLD EXP: TEAC SEC LANG LEARNER 3 credits

Prerequisite: Permission of the instructor is required to enroll. Practical experience in which second language teachers-in-training observe, participate in, and practice teaching under the supervision of the instructor and/or an experienced, certified teacher.

489 SEMINAR IN ENGLISH 2-3 credits

Prerequisite: Completion of 111 and 112 or their equivalents, 64 credits or permission of the instructor. (May be repeated with different topics.) Special studies, and methods of literary research, in selected areas of English and American literature and language.

490 W: ENGLISH 1-3 credits

Prerequisite: Completion of 111 and 112 or their equivalents, 64 credits or permission of the instructor. (May be repeated with different topics) Group studies of special topics in English. Cannot be used to meet undergraduate or graduate major requirements in English; for elective credit only.

492 SENIOR SEMINAR 3 credits

Discussion of select literary topic and reflection on student development in the major. Requires independent research and reflection papers. Limited to senior English majors.

498 INDP STUDY: ENGLISH 1-3 credits

Prerequisite: completion of 111 and 112 or their equivalents, 64 credits or permission. Directed study in a special field of interest chosen by student in consultation with instructor.

Course Details (3350)

100	INTRODUCTION TO GEOGRAPHY	3 credits
Analysis of world patterns of population characteristics, economic activities, settlement features, landforms, climate as interrelated factors.		
250	WORLD REGIONAL GEOGRAPHY	3 credits
Survey of world regions with focus on both physical and human landscapes; emphasis on world patterns and issues from a regional perspective.		
275	GEOGRAPHY CULTURAL DIVERSITY	2 credits
Prerequisites: 32 credit hours including English Composition I and II (3300:111, 112) or equivalent. Evaluation of cultural elements unique to various geographical regions to explain why different people utilize resources differently, and how cultural diversity affects regional conflicts.		
305	MAPS & MAP READING	3 credits
Introduction to use and interpretation of maps. Study of basic map types, elements, symbolism, and historical and cultural context of maps. (Laboratory.)		
310	PHYSICAL & ENVRN GEOGRAPHY	3 credits
Landforms, weather and climate, soils and vegetation and natural hazards. Nature and distribution of these environmental elements and their significance to society. Laboratory.		
314	CLIMATOLOGY	3 credits
Prerequisite: 310 or permission. Analysis and classification of climates, with emphasis on regional distribution. Basic techniques in handling climate data.		
320	ECONOMIC GEOGRAPHY	3 credits
Geographical basis for production, exchange, consumption of goods. Effect of economic patterns on culture and politics.		
350	GEOGRAPHY OF THE U.S. & CANADA	3 credits
Regional and topical study of United States and Canada, with emphasis on environmental, economic and cultural patterns and their interrelationships.		
351	OHIO: ENVIRONMENT & SOCIETY	3 credits
Regional and topical analysis of cultural, economic and environmental patterns; also in comparison with other states.		

353	LATIN AMERICA	3 credits
Analysis of relationship of cultural and economic patterns to physical environment in Mexico, Central America, the Caribbean and South America.		
356	EUROPE	3 credits
Regional and topical analysis of cultural, economic and environmental patterns.		
360	ASIA	3 credits
Environmental, cultural and economic geography of East, Southeast, South Asia and Middle East with emphasis on the contemporary.		
363	AFRICA SOUTH OF THE SAHARA	3 credits
Environmental and human bases of regional contrasts. Emphasis on tropical environmental systems and changing patterns of resource utilization.		
397	SP: GEOGRAPHY AND PLANNING	1-3 credits
(May be repeated for a total of five credits) Prerequisite: permission of instructor. Directed reading and research in special field of interest.		
405	GEOGRAPHIC INFORMATION SYSTEMS	3 credits
Prerequisites: 305 or permission. Introduction to the principles and concepts underlying geographic information systems (GIS) and their application in professional practice and academic research. Laboratory.		
407	ADVANCED GEOGRAPHIC INFO SYS	3 credits
Prerequisites: 405 or permission. Advanced instruction in the theory and application of geographic information systems (GIS) including hands-on experience with both raster and vector GIS. Laboratory.		
409	ARCHAEOGEOPHYSICAL SURVEY	3 credits
Prerequisites: 3240:250 or 3370:101 or 3350:310. Advanced instruction in subsurface geophysical survey techniques in archaeology. Emphasis on magnetic gradiometry and electrical resistivity techniques, image processing and geological and archaeological interpretation.		
415	ENVIRONMENTAL PLANNING	3 credits
Scientific and technical principles for decision-making in planning, with emphasis on soils, land use, and water quality issues. Data sources and methods of site evaluation.		
420	URBAN GEOGRAPHY	3 credits
Spatial structure of urban systems; interaction between cities; internal structure of cities. Perspectives on urban change; contemporary urban geographic problems; urban and regional planning issues.		
422	TRANSPORTATN SYSTEMS PLANNING	3 credits

		Study and analysis of transportation systems from a geographic perspective. Emphasis on transportation problems and issues, elements of transportation planning.
424	MILITARY GEOGRAPHY	3 credits
		Influence of physical and human geography on military operations and military history. Role played by geography in international conflicts.
432	LAND USE PLANNING LAW	3 credits
		Acquaint student with past and present approaches to land use control in the United States and examine the political, economic, social and legal forces that have shaped existing land-use legislation.
433	PRACTICAL APPROACHES TO PLANN	3 credits
		Introduction to the history, theories and forms of urban planning.
437	PLAN ANALYSIS & PROJ METHODS	3 credits
		Introduction to the primary analytic techniques for small-area demographic and economic analysis and projection.
438	LAND USE PLANNING METHODS	3 credits
		Application of GIS and other computer-based tools to the preparation, implementation and evaluation of comprehensive land use plans.
439	HISTORY OF URBAN DESIGN & PLAN	3 credits
		Origins of human settlements and planning from the perspective of urban design and related societal trends. Comparison of world regional and historical urban forms. Experience in "reading" settlements as visual landscapes.
440	CARTOGRAPHY	3 credits
		Use of graphic/cartographic principles and techniques as a means of presenting geographical information on maps and producing maps. Laboratory.
441	GLOBAL POSITIONING SYS (GPS)	1 credits
		Fundamentals of Global Positioning System (GPS), with emphasis on geographic and planning activities. Includes hands-on exercises.
442	CARTOGRAPHIC THEORY & DESIGN	3 credits
		Prerequisite: 440 or permission of instructor. Principles and techniques of thematic mapping. Stresses maps as communications tools. Examines principle thematic mapping techniques and means of presenting qualitative and quantitative data. Laboratory.
443	URBAN APPLICATIONS IN GIS	3 credits
		Prerequisite: 405 or permission of instructor. Applications of GIS in the urban context, including methods used for analysis of population density gradients, migration, and accessibility.

444	APPL IN CART & GEOG INFO SYS	3 credits
Prerequisite: 340 and 405 or permission. Application of analytic and presentation techniques from cartography and geographic information systems to practical problems in geography and planning. Laboratory.		
445	GIS DATABASE DESIGN	3 credits
Prerequisite: 405 or permission. Introduction to theory and concepts of geographic data modeling, geodatabase design, and topology. Emphasis on current practices and methodologies in geography and planning.		
446	GIS PROGRAMMNG & CUSTOMIZATION	3 credits
Prerequisites: 3350:405 or permission. Introduction to use of scripting languages for customizing the interface and extending the functionality of desktop GIS software.		
447	REMOTE SENSING	3 credits
Prerequisite: 305 or permission. Concepts, systems, and methods of applying aerial photography, satellite imagery, and other remote-sensing data for analyzing geographic, geological, and other earth phenomena.		
449	ADVANCED REMOTE SENSING	3 credits
Prerequisite: 447 or permission. Current research in remote sensing. Applications in study of human cultural and biophysical environment. Practice in planning, design, execution and interpretation of remote sensing studies. (Laboratory.)		
450	DEVELOPMENT PLANNING	3 credits
A study of planning concepts and techniques for developing countries, including growth and development, planning agencies, regional inequities and alternative approaches.		
460	POLITICAL GEOGRAPHY	3 credits
Principles and theory in contemporary domestic and international political geographies. Emphasis on the changing local and global patterns of electoral politics, security, and diplomacy.		
481	RESEARCH METH IN GEOG & PLAN	3 credits
Prerequisites: 12 credits in Geography and Planning. Investigation of library and archive resources. Emphasis on development of professional writing skills.		
483	SPATIAL ANALYSIS	3 credits
Prerequisite: 12 credits in Geography & Planning. Analysis of mapped statistical surfaces. Principles for use of map as model for statistical evidence, prediction, hypothesis testing.		
485	INTERN: GEOGRAPHY & PLANNING	1-3 credits

Course Details (3370)

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100	EARTH SCIENCE	3 credits
Introduction to earth science for non-science majors. Survey of earth in relation to its physical composition, structure, history, atmosphere, oceans; and relation to solar system and universe.		
101	INTRODUCTORY PHYSICAL GEOLOGY	4 credits
A study of the nature of earth, its materials, and the processes which continue to change it. Laboratory, field trips.		
102	INTRODUCTORY HISTORICAL GEOL	4 credits
Prerequisite: 101. Geologic history of earth, succession of major groups of plants and animals interpreted from rocks, fossils. Laboratory, field trips.		
103	NATURAL SCIENCE: GEOLOGY	3 credits
Study of basic principles and investigative techniques in various fields of geology with emphasis on relationship of geologic processes to society.		
104	EXERCISES IN PHYSICAL GEOLOGY	1 credits
Prerequisites: 100 or 103 or 200/permission of geology adviser. Laboratory exercises on the identification of earth materials and the utilization and interpretation of geologic data and maps.		
105	GEOLOGY FOR ENGINEERS	3 credits
Introduction of physical geology to engineers, including mechanics, hydraulics and case studies that illustrate interactions between geology and engineering. Laboratory, field trips.		
121	DINOSAURS	1 credits
Introductory course exploring the geological occurrence, mode of fossilization, evolutionary development, habits, and sudden extinction of the largest known land vertebrates.		
122	MASS EXTINCTIONS & GEOLOGY	1 credits
Catastrophic changes in plants and animals have occurred throughout earth history. The causes of these extinctions have sparked debate which has enlivened the scientific world.		
125	EARTHQUAKES: WHY, WHERE, WHEN?	1 credits
Causes and effects of earthquakes, geological settings for earthquakes, seismic measurements, mechanical response of rock to stress, earthquake prediction and precautionary measures.		

126	NATURAL DISASTERS & GEOLOGY	1 credits
A study of the earth's natural hazards including earthquakes, landslides, meteorites and tsunamis.		
127	THE ICE AGE & OHIO	1 credits
Introductory course covering the effects of the ice age on the geology, vegetation, fauna and economy of Ohio.		
128	GEOLOGY OF OHIO	1 credits
Survey of Ohio's geologic setting and history, natural resources, landforms, and their significance in terms of human activity, from early settlement to future economy.		
129	MEDICAL GEOLOGY	1 credits
Abundance and distribution of trace elements in surface and groundwater, soils and rocks. The effects of trace elements to health through dose-response relationships.		
130	GEOL RECORD OF CLIMATE CHANGE	1 credits
Examines evidence for natural climate changes in geologic past and evaluates the role of modern society in influencing future climate.		
132	GEMSTONES & PRECIOUS METALS	1 credits
Introduction to minerals which form gemstones and precious metals. Topics to be covered include physical properties, geologic occurrences, and geographic locations of major deposits.		
133	CAVES	1 credits
Topics include: karst processes and the origin of caverns; carbonate depositional environments and the origin of limestones; environmental problems associated with karst landscapes		
134	HAZARDOUS & NUCLEAR WASTE DISP	1 credits
Disposition of hazardous waste in secured landfill site. Geologic factors which determine the selection of low-level and high-level radioactive waste sites.		
135	GEOLOGY OF ENERGY RESOURCES	1 credits
Topics include the origin of hydrocarbon and coal deposits, global distribution of energy resources, environmental impact of energy consumption.		
137	EARTHS ATMOSPHERE & WEATHER	1 credits
Structure and composition of the atmosphere; earth's radiation budget; atmospheric moisture, clouds and precipitation; weather systems and storms, severe weather, Ohio weather.		
139	CT: GEOLOGY	1 credits
(May be repeated for up to 2 credits.) Special topics offered once or only occasionally in areas where no formal course exists.		

140	ROCKY MOUNTAIN NATIONAL PARKS	1 credits
Badlands, Yellowstone, Grand Canyon and other Rocky Mountain National Parks will be used to illustrate basic principles of geology.		
141	NATURAL ENVIRONMENT OF CHINA	1 credits
Introduction to geographical and geological environments of China. Geography and geology of geoparks will be presented and discussed as examples		
171	INTRODUCTION TO THE OCEANS	3 credits
Provides a basic introduction to the oceans. Topics include formation of the oceans, ocean circulation, waves and tides, marine animals, marine communities, and climate change.		
200	ENVIRONMENTAL GEOLOGY	3 credits
Analysis of geologic aspects of the human environment with emphasis on geologic hazards and environmental impact of society's demand for water, minerals and energy.		
201	EXERC ENVIRONMENTL GEOLOGY I	1 credits
Prerequisite or corequisite: 200. Recognition, evaluation of environmental problems related to geology through field, laboratory exercises and demonstrations which apply concepts from 200. Laboratory.		
203	EXERC ENVIRONMENTL GEOLOGY II	1 credits
Prerequisites: 200 (or corequisite) and 201. Recognition and evaluation of environmental problems related to geology. (Continuation of 201) Laboratory.		
211	INTRO TO ENVIRONMENTAL SCIENCE	3 credits
Interdisciplinary analysis of our relationship with nature and dependence upon the environment, with emphasis on evaluation of current environmental problems and rational solutions.		
230	MINERAL SCIENCE	4 credits
Prerequisites: 101. Corequisites: 3150:151, 152. Crystallography and chemistry of minerals. Topics also covered include physical, chemical and optical properties, occurrences and uses of the common non silicate minerals. Laboratory, field trips.		
231	SILICATE MINERAL & PETROLOGY	4 credits
Prerequisite: 3370:101 and corequisites: 3150:151, 152. Physical and chemical properties, occurrence, and uses of common silicate minerals, followed by megascopic and microscopic identification, classification, and petrogenesis of rocks. Laboratory.		
301	ENGINEERING GEOLOGY	3 credits
Prerequisites: Four credits in introductory physical geology and permission. Presents quantitative analysis of geologic features and processes and is supported by the study of case histories. Lecture, lab, field study, field trips.		

310	GEOMORPHOLOGY	3 credits
Prerequisite: 101. Study of landforms as a function of structure, process, and time. Laboratory, field trips.		
324	SEDIMENTATION & STRATIGRAPHY	4 credits
Prerequisites: 102 and 231. Introduction to sedimentary processes and environments; stratigraphic principles and techniques. Hand specimens, thin sections, and sedimentary sequences studied. Laboratory, field trips.		
350	STRUCTURAL GEOLOGY	4 credits
Prerequisite: 101 or permission. Origins and characteristics of folds, faults, joints and rock cleavage. Structural features of sedimentary, igneous and metamorphic rocks. Laboratory, field trips.		
360	PALEOBIOLOGY	4 credits
Prerequisite: 101 or 3100:111 Introductory course emphasizing morphology and evolution of major invertebrate groups with consideration of practical applications of paleontology. Laboratory, field trips.		
371	OCEANOGRAPHY	4 credits
Prerequisite: 101. Study of the dominant feature of our planet, the oceans, emphasizing ocean basins evolution, and physical, chemical and biological processes in the various marine environments. Field trips.		
405	ARCHAEOLOGICAL GEOLOGY	3 credits
Prerequisites: 101, or permission. Provides background in geologic principles and techniques relevant to archaeologists. Topics include stratigraphy, absolute dating, locality assessment, zooarchaeology, taphonomy, and remote sensing. Laboratory, field trips.		
407	ARCHAEOGEOPHYSICAL SURVEY	3 credits
Prerequisites: 3240:250 or 3370:101 or 3350:310. Advanced instruction in subsurface geophysical survey techniques in archaeology. Emphasis on magnetic gradiometry and electrical resistivity techniques, image processing and geological and archaeological interpretation.		
410	REGIONAL GEOLOGY OF N AMERICA	3 credits
Prerequisites: 101, 102, or permission; recommended: 350. Examination of physiographic provinces of North America emphasizing structure, tectonic setting, stratigraphy and processes responsible for landforms in each province. Laboratory, field trips.		
411	GLACIAL GEOLOGY	3 credits
Prerequisite: permission. Causes and effects of Pleistocene expansion of polar ice masses with emphasis on glacial deposits and world climatic changes. Laboratory, field trips.		
421	COASTAL GEOLOGY	3 credits

Prerequisites: 101, 324 or permission of instructor. Study of the origins and evolution of coasts and coastal deposits with particular attention paid to the interaction of waves and currents with sediment, and the development of associated sedimentary features. Field trips.		
425	PRINC: SEDIMENTARY BASIN ANALYSIS	3 credits
Prerequisites: 324 and 360 or permission. Primarily the study of depositional systems, regional and global stratigraphic cycles, and sedimentation and plate tectonics.		
432	OPTICAL MINERALOGY, INTRO PETROLOGY	3 credits
Prerequisites: 230 and 231. Optical techniques for identification, characterization, and classification of minerals and rocks using the petrographic microscope. Laboratory.		
433	ADVANCED PETROLOGY	3 credits
Prerequisite: 432. Petrogenesis of igneous, metamorphic and sedimentary rocks as determined by microscopic studies of textures and mineral assemblages using thin sections. Laboratory.		
435	PETROLEUM GEOLOGY	3 credits
Prerequisite: 350 or permission; recommended: 324. Natural occurrences of petroleum. Characteristics, origin, entrapment and exploration methods. Laboratory, field trips.		
436	COAL GEOLOGY	3 credits
Prerequisites: 101, 102; recommended: 324. Origin, composition and occurrence of coal with emphasis on depositional environments, coalification processes, exploration, evaluation and exploitation. Laboratory, field trips.		
437	ECONOMIC GEOLOGY	3 credits
Prerequisites: 231 and 350. Study of metallic and nonmetallic mineral deposits emphasizing paragenesis and exploration. Laboratory, field trips.		
441	FUNDAMENTALS OF GEOPHYSICS	3 credits
Prerequisites: 3450:223 or permission and 3650:292. Fundamental concepts in solid earth geophysics, planetary physics, geodesy, and geomagnetism. Contributions of geophysics to recent major developments in geoscience.		
444	ENVIRONMENTAL MAGNETISM	3 credits
Prerequisite: 101 or permission. Introduction to the theory and methods of environmental magnetism and the application of environmental magnetism to interpreting sedimentary deposits.		
445	ENVIRONMENTAL AND ENGINEERING GEOPHYSICS	3 credits
Prerequisite: 3650:261 or 3650:291 or permission of instructor. Corequisite: 3650:262 or 3650:292 or permission of instructor. Basic subsurface exploration using ground penetrating radar and multi-channel electrical resistivity. Applications in environmental assessment, civil engineering and geotechnical engineering. Field trips.		

446	EXPLORATION GEOPHYSICS	3 credits
Prerequisites: 3450:223, 3650:292 or permission. Basic principles and techniques of geophysical exploration with emphasis on gravimetric, magnetic, seismic and electrical methods and application to geological problems. Laboratory, field trips.		
449	BOREHOLE GEOPHYSICS	3 credits
Prerequisite: permission. Basic principles and techniques of geophysical well logging with emphasis on electrical, radioactive, and sonic measures and their quantitative evaluation. Applications in oil, gas, and groundwater exploration. Laboratory.		
450	ADVANCED STRUCTURAL GEOLOGY	3 credits
Prerequisite: 350 or permission. Fundamental and advanced concepts of structural geology with emphasis on current and developing concepts. Laboratory, field trips.		
451	FLD/LAB STD: ENVIRONMENTAL SCI	3 credits
Prerequisite: permission of instructor. Field/Laboratory inquiry into a specific interdisciplinary, environmental science topic. Students complete a research project involving collecting, analyzing and interpreting real world data. (May be repeated once.)		
452	GEOL & ENVIRON SC SRVC LEARN	1-3 credits
Prerequisite: Permission of instructor. Team service-learning project that involves collection, organization, analysis, and presentation of data. Field trips. (May be repeated for a maximum of four credits.)		
453	GEOLOGY FIELD CAMP I	3 credits
Prerequisite: 101 and 102 and permission. Introduction to collection and interpretation of field data and construction of geologic maps. Student will bear trip expenses.		
454	GEOLOGY FIELD CAMP II	3 credits
Prerequisites: 231, 350, 453, or permission. Advanced techniques and methods of field geology necessary for detailed geological maps and interpretation. Student will bear trip expenses.		
455	FIELD STUDIES IN GEOLOGY	1-3 credits
Prerequisite: Permission of instructor. Field trip course emphasizing aspects of geology not readily studied in Ohio. Includes pre-trip preparation and post-trip examination. Student will bear trip expenses. (May be repeated for a total of four credits.)		
462	MACROEVOLUTION	3 credits
Prerequisites: 360 or 3100:111. Provides a comprehensive treatment of macroevolutionary theory, focusing on evidence from the fossil record. Topics include genetics, speciation, development, and fossil lineages. Laboratory.		
463	ENVIRONMENTAL MICROPALAEONTOLOGY	3 credits

Prerequisite: 360 or permission. Introduction to techniques of micropaleontology as proxy indicators for environmental and climate change. Laboratory. Field trips.		
465	GEOMICROBIOLOGY	3 credits
Prerequisites: 3150:151 and 3150:153. A course addressing the physiology, ecology, and activities of microorganisms that mediate important biogeochemical processes, and the interdisciplinary approaches to studying them.		
470	GEOCHEMISTRY	3 credits
Prerequisite: 101, 230, and 231, 3150:151, 152 and 153 or permission. Application of chemical principles to the study of geologic processes. Laboratory, field trips.		
472	STABLE ISOTOPE GEOCHEMISTRY	3 credits
Prerequisite: 101 and 102; 3150:151, 152 and 153; 3450:221. Application of stable isotope geochemistry to the study of hydrologic and carbon cycles, modern sedimentary environments, and the interpretation of sedimentary rocks.		
474	GROUNDWATER HYDROLOGY	3 credits
Prerequisite: 101. Origin, occurrence, regimen and utilization of groundwater. Qualitative and quantitative presentation of geological and geochemical aspects of groundwater hydrology. Laboratory, field trips.		
480	SEM: ENVIRONMENTAL STUDIES	2 credits
Discussion of specific environmental topic(s) from an interdisciplinary viewpoint; resource persons are drawn from the University and surrounding community.		
481	ANALYTICAL METHODS IN GEOLOGY	2 credits
Prerequisite: 230, 231. A survey of analytical methods used to solve geologic problems with emphasis on method selection, proper sample collection, analysis of data quality and data presentation.		
484	GEOSCIENCE INFO ACQ & MGT	2 credits
Prerequisite: Must be a Geology Department graduate student or senior major in Geology, or have permission of instructor. Methods for finding, gathering, managing, and evaluating geoscience information. Emphasis on finding data sources (including electronic), creating valid data sets, visualizing data.		
485	INDIV READINGS: GEOL & ENV SC	1-3 credits
Prerequisite: permission of instructor. (May be repeated for a total of 4 credits) Independent study and directed readings on a selected topic to fit an individual student's program.		
490	W: GEOLOGY & ENVIRONMENTAL SCI	1-4 credits
Group studies of special topics in geology and environmental science. May not be used to meet undergraduate major requirements in the Department. May be used for elective credit only. (May be repeated for up to 4 credits.)		

491	INTERN: GEOL & ENVIRON SC	1-3 credits
Prerequisite: Permission of Department Chair. Supervised professional experience in geology or environmental science. Only three credits may be applied toward a degree in geology. (May be repeated for a total of six credits.)		
497	HONORS PROJ IN GEOLOGY	1-3 credits
(May be repeated for a total of six credits.) Prerequisite: permission of department honors preceptor, Honors student only. Exploration of research topics and issues in geology. Selection of research topic and writing of research paper in proper scholarly form under direction of faculty member.		
498	ST: GEOLOGY	1-3 credits
Prerequisite: permission of instructor. Special lecture courses offered once or only occasionally in areas where no formal course exists.		
499	RESEARCH PROBLEMS IN GEOLOGY	1-3 credits
(May be repeated for a total of four credits) Prerequisite: permission. Independent research leading to the completion of a written paper or presentation at a professional meeting.		

Course Details (3400)

200	EMPIRES OF THE ANCIENT WORLD	3 credits
Comparative study of the formation of ancient empires of the Afro-Eurasian world up to the rise of Islam.		
210	HUMANITIES IN WESTERN TRAD I	4 credits
Prerequisites: 32 credits and completion of 3300:112 or 3300:114 or 2020:222 (or permission). Introduction to the human condition as manifested in ideas, religions, visual arts and music of Western civilization from the ancient Greeks through the Renaissance. Cannot be used to meet major requirements in History.		
211	HUMANITIES IN WESTERN TRAD II	3 credits
Prerequisite: 3400:210. Introduction to the human condition in the past as manifested in the ideas, religions, visual arts and music of Western civilization from the Protestant Reformation to the Present. Cannot be used to meet major requirements in History.		
221	HUMANITIES IN THE WLD SNC 1300	4 credits
Prerequisites: 32 credits and completion of 3300:112 or 3300:114 or 2020:222 (or permission). Introduction to the human condition as expressed in the ideas, religions, visual arts, and music of the world since 1300. Cannot be used to meet major requirements in History.		
250	U.S. HISTORY TO 1877	4 credits
Historical survey from the Age of Discovery and North American colonization through the creation of the United States to the Civil War and Reconstruction.		
251	U.S. HISTORY SINCE 1877	4 credits
Survey of United States history from the end of Federal Reconstruction to the present.		
285	WORLD CIVILIZATIONS: CHINA	2 credits
Prerequisite: 32 credit hours including completion of 3300:112, 3300:114, or 2020:222 or equivalent. Courses 285 through 291 are designed to provide a basic knowledge of past human experiences and an understanding of current events in key areas of the non-Western world. These courses cannot be used to meet major requirements in History.		
286	WORLD CIVILIZATIONS: JAPAN	2 credits
Prerequisite: 32 credit hours including completion of 3300:112, 3300:114, or 2020:222 or equivalent. Courses 285 through 291 are designed to provide a basic knowledge of past human experiences and an understanding or current events in key areas of the non-Western world. These courses cannot be used to meet major requirements in History.		

287	WORLD CIVILIZATIONS: SE ASIA	2 credits
Prerequisite: 32 credit hours including completion of 3300:112, 3300:114, or 2020:222 or equivalent. Courses 285 through 291 are designed to provide a basic knowledge of past human experiences and an understanding of current events in key areas of the non-Western world. These courses cannot be used to meet major requirements in History.		
288	WORLD CIVILIZATIONS: INDIA	2 credits
Prerequisite: 32 credit hours including completion of 3300:112, 114, or 2020:222 or equivalent. Courses 285 through 291 are designed to provide a basic knowledge of past human experiences and an understanding of current events in key areas of the non-Western world. These courses cannot be used to meet major requirements in History.		
289	WORLD CIV: MIDDLE EAST	2 credits
Prerequisite: 30 credit hours including completion of 3300:112, 3300:114, 2020:222 or equivalent. Courses 285 through 291 are designed to provide a basic knowledge of past human experiences and an understanding of current events in key areas of the non-Western world. These courses cannot be used to meet major requirements in History.		
290	WORLD CIVILIZATIONS: AFRICA	2 credits
Prerequisite: 32 credit hours including completion of 3300:112, 3300:114, or 2020:222 or equivalent. Courses 285 through 291 are designed to provide a basic knowledge of past human experiences and an understanding of current events in key areas of the non-Western world. These courses cannot be used to meet major requirements in History.		
291	WORLD CIV: LATIN AMERICA	2 credits
Prerequisite: 32 credit hours including completion of 3300:112, 3300:114, or 2020:222 or equivalent. Courses 285 through 291 are designed to provide a basic knowledge of past human experiences and an understanding of current events in key areas of the non-Western world. These courses cannot be used to meet major requirements in History.		
300	IMPERIAL CHINA	3 credits
Prerequisite: a minimum of 32 credits or permission of the instructor. Selective study of institutional, intellectual, political and artistic developments in Chinese civilization from antiquity to 18th century. Emphasis on general features of traditional Chinese culture.		
301	MODERN CHINA	3 credits
Prerequisite: a minimum of 32 credits or permission of the instructor. This course examines the domestic and global roots of China's 20th century modernization and their relationship to the challenges China now faces.		
303	MODERN EAST ASIA	3 credits
Prerequisite: a minimum of 32 credits or permission of the instructor. Exploration of domestic and global factors that shaped modern East Asia (Japan, China, Korea and Vietnam).		

307	THE ANCIENT NEAR EAST	3 credits
Prerequisite: a minimum of 32 credits or permission of the instructor. Mesopotamia, Egypt; Israel, and neighbors to Persian Empire.		
308	GREECE	3 credits
Prerequisite: a minimum of 32 credits or permission of the instructor. Minoans and Mycenaeans; classical Greece to triumph of Macedon.		
310	HISTORICAL METHODS	3 credits
Introduction to historical research and writing. Required for history major.		
313	EASTRN ROMAN EMPIRE (324-1453)	3 credits
Prerequisite: a minimum of 32 credits or permission of the instructor. Byzantine culture and history from 324 to the fall of 1453.		
317	ROMAN REPUBLIC	3 credits
Prerequisite: a minimum of 32 credits or permission of the instructor. An intensive survey of the Roman Republic. Attention will be given to the nature of the source material, ancient historiography, text criticism and the like.		
318	ROMAN EMPIRE	3 credits
Prerequisite: a minimum of 32 credits or permission of the instructor. An intensive survey of the Roman Empire. Attention will be given to the nature of the source material, ancient historiography, text criticism and the like.		
319	MEDIEVAL EUROPE, 500-1200	3 credits
Prerequisite: a minimum of 32 credits or permission of the instructor. Migration of peoples, Carolingian revival, renewed invasions; social, economic and intellectual stirrings lead to "birth of Europe."		
320	MEDIEVAL EUROPE, 1200-1500	3 credits
Prerequisite: a minimum of 32 credits or permission of the instructor. Middle Ages and the middle class; economic and political change, international wars, social unrest and religious crosscurrents.		
321	EUR: RENAISS RELG WAR 1350-1610	3 credits
Prerequisite: a minimum of 32 credits or permission of the instructor. Survey of the social, political, economic, religious, and intellectual history of Early Modern Europe from the Italian Renaissance to the early 17th century.		
322	EUROPE: ABSOL/REVOL 1610-1789	3 credits
Prerequisite: a minimum of 32 credits or permission of the instructor. Survey of the social, political, economic, religious, and intellectual history of Early Modern Europe from the Thirty Years War to the French Revolution.		

323	EUROPE: REVOLU TO WW 1789-1914	3 credits
Prerequisite: a minimum of 32 credits or permission of the instructor. Surveys the political, economic, social, and cultural history of modern Europe from the French Revolution to the First World War.		
324	EUROPE: WW I TO THE PRESENT	3 credits
Prerequisite: a minimum of 32 credits or permission of the instructor. A survey of European political and social history from World War I to the present.		
325	WOMEN IN MODERN EUROPE	3 credits
Prerequisite: a minimum of 32 credits or permission of the instructor. A survey of the history of women in Europe since 1500, with emphasis on their roles and the changes attendant on modernization.		
335	RUSSIA TO 1801	3 credits
Prerequisite: a minimum of 32 credits or permission of the instructor. Survey of Russian history from Kievan period to death of Paul I, emphasizing development of autocratic government, Russian culture, reigns of Peter and Catherine.		
336	RUSSIA SINCE 1801	3 credits
Prerequisite: a minimum of 32 credits or permission of the instructor. Survey of 19th and 20th centuries. Special emphasis on problems of modernization, the revolution and development of communism.		
337	FRANCE NAPOLEON TO DEGAULLE	3 credits
Prerequisite: a minimum of 32 credits or permission of the instructor. Combines a study of Napoleon and DeGaulle with a survey of the political, economic, social, and cultural/artistic trends of modern French history.		
338	ENGLAND TO 1688	3 credits
Prerequisite: a minimum of 32 credits or permission of the instructor. Survey of English history from the Anglo-Saxon conquest to the Revolution of 1688. Medieval and early modern institutions, social and cultural life.		
339	ENGLAND SINCE 1688	3 credits
Prerequisite: a minimum of 32 credits or permission of the instructor. Survey of English history from 1688 to the present. The reform of English institutions and life, modernization of the economy, the welfare state, society and war.		
340	SEL T: HISTORY	3 credits
Prerequisite: a minimum of 32 credits or permission of the instructor. Includes experimental offerings such as those crossing subject of chronological lines, and subjects not listed in this General Bulletin. See departmental office for current subject.		
341	ISLAMIC FUNDAMENTALISM & REVOL	3 credits

Prerequisite: a minimum of 32 credits or permission of the instructor. The political and socio-economic roots of Islamic reformism and militancy in the Middle East and North Africa since the 1960s.

342 THE CRUSADES THROUGH ARAB EYES 3 credits

Prerequisite: a minimum of 32 credits or permission of the instructor. Political and military struggles, diplomatic practices and intellectual traditions of the Medieval Islamic/Arab world and the Western crusaders.

345 NATIVE NORTH AMERICAN HISTORY 3 credits

Prerequisite: a minimum of 32 credits or permission of the instructor. The histories of Native Americans from Columbus to the present, emphasizing a half-millennium of adaptive responses to the presence of Europeans in North America.

350 U.S. WOMEN'S HISTORY 3 credits

Prerequisite: a minimum of 32 credits or permission of the instructor. History of American women's experiences and exploration of gender as a changing structure shaping American life from the colonial period through the 20th century.

351 GLOBAL HIST:ENCNTRS & CONFLCTS 4 credits

Prerequisite: a minimum of 32 credits or permission of the instructor. This course explores historical encounters between societies to explain the development of the integrated economic, political, and cultural systems presently characterizing the modern world.

352 THE AMERICAN WEST 3 credits

Prerequisite: a minimum of 32 credits or permission of the instructor. Examination of westward movement from revolution to closing of frontier; types of frontiers; impact of west on nation's development.

354 AMERICAN IMMIGRATION 3 credits

Prerequisite: a minimum of 32 credits or permission of the instructor. Examination of European migrants to American colonies and United States, their reasons for leaving Europe and coming to America, and their experience after arrival.

355 AMERICAN RELIGIOUS HISTORY 3 credits

Prerequisite: a minimum of 32 credits or permission of the instructor. Addresses critical issues and figures in American religious history from the colonial era to present, including ways ideas have influenced political and judicial discourse.

356 SPORTS IN AM HIST SINCE 1865 3 credits

Prerequisite: a minimum of 32 credits or permission of the instructor. An examination of the reciprocal relationship between sports and various institutions of society: culture, religion, politics, education, economics, race, ethnicity, diplomacy and gender.

358 URBAN AMERICA 3 credits

Prerequisite: a minimum of 32 credits or permission of the instructor. This course looks at the significance of cities and urban development in shaping American society.		
360	UNITED STATES MILITARY HISTORY	3 credits
Prerequisite: a minimum of 32 credits or permission of the instructor. Survey of United States military history from the colonial era to the present.		
361	AFRICAN AMER HISTORY,1492-1877	3 credits
Prerequisite: a minimum of 32 credits or permission of the instructor. This course focuses on African American history, culture and heritage from 1492 to 1877.		
362	AFRICAN AMER HISTORY,1877-PRES	3 credits
Prerequisite: a minimum of 32 credits or permission of the instructor. This course focuses on African American history, culture and heritage from 1877 to present.		
363	AFRICAN AMERICAN MEN'S HISTORY	3 credits
Prerequisite: a minimum of 32 credits or permission of the instructor. This course will examine the experiences of African American Men from historical, socio-economic, philosophical, religious/spiritual, and psychological standpoints.		
371	SEL T: NORTH AMERICAN HISTORY	3 credits
Prerequisite: a minimum of 32 credits or permission of the instructor. Selected topics addressing the history of North America (from the Rio Grande to the Arctic). Contact the department office concerning specific topics.		
372	SEL T: EUROPEAN HISTORY	3 credits
Prerequisite: a minimum of 32 credits or permission of the instructor. Selected topics addressing European history from the collapse of the Roman Empire to the present. Contact the department office concerning specific topics.		
373	SEL T: OTHER	3 credits
Prerequisite: a minimum of 32 credits or permission of the instructor. Selected historical topics on Africa, Asia, Latin America, the ancient world and world history. Contact the department office concerning specific topics.		
377	HISTORY OF WOMEN IN LATIN AMER	3 credits
Prerequisite: a minimum of 32 credits or permission of the instructor. Survey of changes and continuities in the lives of Latin American women since the colonial period; emphasis on gender, race, class in shaping women's experiences.		
378	SPAN CNQST & COLNIZTN OF AMER	3 credits

Prerequisites: A minimum of 32 credits or permission of the instructor. Course examines the conquest, colonization, and three-centuries-long Spanish rule in Latin America since 1492. Emphasis on culture, power inequalities, issues of identity, and memory.		
379	MODERN LATIN AMERICA	3 credits
Prerequisite: a minimum of 32 credits or permission of the instructor. This course examines the history of Latin America during the national period, ca. 1820s to the present. Focus on politics, economic systems, and nation-state formation.		
381	HISTORY OF CANADA	3 credits
Prerequisite: a minimum of 32 credits or permission of the instructor. Survey of Canadian history from the age of the explorers to the present. Special emphasis will be placed on the history of French-Canadians, on economic development and on Canadian-American relations.		
382	THE VIETNAM WAR	3 credits
Prerequisite: a minimum of 32 credits or permission of the instructor. An examination and evaluation of all aspects of the war in Vietnam, political, military, diplomatic and economic, including its impact domestically then and later.		
392	INTERNSHIP IN HISTORY	1-3 credits
Prerequisites: 64 credits, History major or minor, prior completion of 16 credits in History (not including Humanities in the Western Tradition or World Civilizations), minimum 2.5 history GPA, and permission of instructor. Individual field experience in applied history. May be repeated up to 6 credits; 4 credits to apply to the 32 credit minimum for a history major.		
395	MODERN IRAN	3 credits
Prerequisite: A minimum of 32 credits or permission of the instructor. This course on modern Iran explores the country's history of nationalism, identity, gender, and religion, and its place in world history.		
396	IRAQ IN HISTORICAL PERSPECTIVE	3 credits
Prerequisite: a minimum of 32 credits or permission of the instructor. This course will offer a complex and nuanced look into the history of Iraq and will situate current events firmly in their historical context.		
397	INDIVIDUAL STUDY IN HISTORY	1-3 credits
(May be repeated for a total of four credits) Prerequisite: permission. For individual study or research in history, including special projects, summer study tours or specialized training.		
400	GENDER AND CULTURE IN CHINA	3 credits
Prerequisite: a minimum of 48 credits or permission of the instructor. This course examines the dynamic between gender and culture from late imperial to post-socialist China, with connections drawn to public policies in different periods.		
401	JAPAN & PACIFIC WAR, 1895-1945	3 credits

Prerequisite: a minimum of 48 credits or permission of the instructor. Development of Revolution; Napoleon's regime and satellites.		
438	NAZI GERMANY	3 credits
Prerequisite: a minimum of 48 credits or permission of the instructor. This course covers the social, economic, and political history of Germany from World War I to 1945 with emphasis on the Third Reich.		
440	TUDOR & STUART BRIT, 1485-1714	3 credits
Prerequisite: a minimum of 48 credits or permission of the instructor. An examination of the development of, and increasing links between the British kingdoms in the early modern period, with emphasis on culture, politics, and religion.		
443	CHURCHILLS ENGLAND	3 credits
Prerequisite: a minimum of 48 credits or permission of the instructor. An examination of the changes that Britain experienced during the life of Winston Churchill, 1874-1965. Emphasis is on cultural, social, and political developments.		
451	COLONIAL AMERICAN HISTORY	3 credits
Prerequisite: a minimum of 48 credits or permission of the instructor. This course covers the history of colonial America from the first European contact in the Americas in 1492 to the onset of the American Revolution.		
452	AMER REV ERA: PL MIL & CON ASP	3 credits
Prerequisite: a minimum of 48 credits or permission of the instructor. The struggle for the rights of Englishmen and independence; the impact of war on American society and the creation of republican institutions.		
453	THE EARLY AMERICAN REPUBLIC	3 credits
Prerequisite: a minimum of 48 credits or permission of the instructor. The evolution of the American republic from its early beginnings after the American Revolution to the antebellum era. Emphasis upon political, social, and cultural developments.		
454	CIVIL WAR & RECONST, 1850-1877	4 credits
Prerequisite: a minimum of 48 credits or permission of the instructor. Sectionalism, slavery and the causes of the Civil War; wartime activities of the Union and Confederacy; leading personalities; problems of reconstruction and the new Union.		
455	ORIGINS MOD AMERICA, 1877-1917	3 credits
Prerequisite: a minimum of 48 credits or permission of the instructor. United States from Reconstruction Era to World War I (1877-1920); emphasis on political responses to rise of an industrialized-urbanized society, the populist and progressive movements.		
456	AMER WWARS & DEPRESS 1917-1945	3 credits

Prerequisite: a minimum of 48 credits or permission of the instructor. World War I and Versailles; the 1920s, the Great Depression and the New Deal; World War II.		
457	THE UNITED STATES SINCE 1945	3 credits
Prerequisite: a minimum of 48 credits or permission of the instructor. Nuclear age, cold war, foreign policy and domestic affairs to present. Social, political, constitutional, diplomatic, cultural and economic changes since 1945.		
461	THE U.S.AS A WORLD POWER	3 credits
Prerequisite: a minimum of 48 credits or permission of the instructor. The course analyzes the emergence and functioning of the United States as a world power, with particular emphasis on the 20th century.		
463	U.S. CONST HISTORY SINCE 1870	3 credits
Prerequisite: a minimum of 48 credits or permission of the instructor. This course examines the evolution of constitutional government from the drafting of the U.S. Constitution (1787) to present.		
465	AMERICAN ECONOMY SINCE 1900	3 credits
Prerequisite: a minimum of 48 credits or permission of the instructor. Survey of economic developments since 1900; topics include agriculture, business and labor. Special emphasis on role of big business and evolution of monetary and fiscal policy.		
467	HIST OF AMERICAN POP CULTURE	3 credits
Prerequisite: a minimum of 48 credits or permission of the instructor. Historical analysis of mass cultural phenomena and the social experiences associated with mass technologies that transformed modern America life in the 19th and 20th centuries.		
468	AFRICAN-AMER SOC & INT HISTORY	3 credits
Prerequisite: a minimum of 48 credits or permission of the instructor. Examination of black thought and activities reflective of African-American culture, conditions facing black people within America and efforts toward coordinated black activity.		
469	AFRICAN-AMER WOMEN'S HISTORY	3 credits
Prerequisite: a minimum of 48 credits or permission of the instructor. Study of black American women's lives from colonial times to the present featuring autobiographical. Fictional and secondary works authored by black women.		
470	OHIO HISTORY	3 credits
Prerequisite: a minimum of 48 credits or permission of the instructor. Political, social, economic and intellectual history of Ohio, with special emphasis on Ohio's relationship to Old Northwest and to the nation.		
471	AMERICAN ENVIRONMENTAL HISTORY	3 credits

Prerequisite: a minimum of 48 credits or permission of the instructor. Utilization, conservation of natural resources from beginnings of American society to present; combination of economic, technological history of extensive treatment of public policy, environmental issues.		
475	MEXICO	3 credits
History of Mexico from Indian civilizations to present with emphasis on relations with United States; social and political ramifications of the 20th Century Mexican revolution.		
476	CENTRAL AMERICA & CARIBBEAN	3 credits
Prerequisite: a minimum of 48 credits or permission of the instructor. Selected aspects of the histories of Central American and Caribbean countries with emphasis on populist and peasant movements, political reform, social revolution, economic and under development, and relations with the United States.		
484	MUSEUMS AND ARCHIVES	3 credits
Prerequisite: a minimum of 48 credits or permission of the instructor. This course will focus on the work of history museums, historical societies and historic house museums and archives.		
485	HISTORY, COMMUNITIES & MEMORY	3 credits
Prerequisite: a minimum of 48 credits or permission of the instructor. Course examines the interactions between the work of academic historians and the public in areas such as local history, monuments, oral history, film and the Internet.		
487	SCIENCE & TECH IN WORLD HIST	3 credits
Prerequisite: a minimum of 48 credits or permission of the instructor. This course examines the development and diffusion of science and technology in human history, its impact on society, culture, and daily life.		
489	OTTOMAN STATE AND SOCIETY	3 credits
Prerequisite: a minimum of 48 credits or permission of the instructor. Explores political, economic, and social dynamics of one of the world's most enduring and expansive multiethnic empires.		
491	HONORS SEMINAR IN HISTORY	3 credits
Prerequisite: permission of department head or instructor. Selected readings; writing of research paper. For student seeking to graduate with honors in history and for student in Honors Program.		
492	HONORS PROJECT IN HISTORY	1-3 credits
Prerequisite: 64 credits. An individual research project relevant to history, supervised by a member of the Department of History, culminating in an undergraduate thesis.		
493	SP ST: NORTH AMERICAN HISTORY	3 credits
Prerequisite: a minimum of 48 credits or permission of the instructor. Special studies in the history of North America (Rio Grande to Arctic). See department office for information on particular offerings.		

494	W: HISTORY	1-3 credits
(May be repeated) Group studies of special subjects pertaining to history. May be used for elective credit only. May not be used to meet undergraduate or graduate major requirements in history.		
495	SP ST: EUROPEAN HISTORY	3 credits
Prerequisite: a minimum of 48 credits or permission of the instructor. Special studies in European history from the fall of the Roman Empire to the present. See department office for information on particular offerings.		
496	SP ST IN HISTORY:OTHER	3 credits
Prerequisite: a minimum of 48 credits or permission of the instructor. Special studies in the history of Latin America, Asia, Africa or the Pacific. See department office for information on particular offerings.		
498	RACE, NATION & CLASS - M EAST	3 credits
Prerequisite: a minimum of 48 credits or permission of the instructor. This course analyzes identity politics and the development of the ideas of race, nation, and class in the Middle East from a historical perspective.		
499	WOMEN & GENDER IN MID EAST SOC	3 credits
Prerequisite: a minimum of 48 credits or permission of the instructor. This course explores the multi-layered processes and dimensions, including texts, cultural values and practices, institutions, and events, which have shaped women's experiences in the Middle East.		

Course Details (3450)

100	INTERMEDIATE ALGEBRA	3 credits
Prerequisite: Completion of 2010:052 or 057 with a grade of C or better or placement test. Review of high school algebra: real numbers, exponents, radicals, factoring, linear and quadratic equations, graphing, and problem solving. Does not meet General Studies mathematics requirement.		
135	EXCURSIONS IN MATHEMATICS	3 credits
Prerequisites: Completion of 2010:052 or 057 with a grade of C- or better or placement test. Contemporary applications of mathematics for the non-science major to develop skills in logical thinking and reading technical material. Topics include voting, apportionment, scheduling, patterns, networks.		
140	FUND OF MATH FOR PRIMARY EDUC	3 credits
Prerequisites: Either completion of 3450:100 with a C- or better, or completion of 3470:250 with a grade of C- or better, or placement test. Corequisite: 5100:200. A problem-solving and inquiry-based approach to number systems; bases; operations, properties, relationships, algorithms of Real Numbers; patterns and algebra.		
145	COLLEGE ALGEBRA	4 credits
Prerequisite: Mathematics Placement Test or completion of 100 with a grade of C- or better. Real numbers, equations and inequalities, linear and quadratic functions. Exponential and logarithmic functions. Systems of equations, matrices, determinants. Permutations and combinations.		
149	PRECALCULUS MATHEMATICS	4 credits
Prerequisite: Completion of 145 with a grade of C- or better or placement. Functions, polynomial functions, complex numbers, exponential and logarithmic functions, systems of equations, trigonometric functions, mathematical inductions, sequences, and binomial theorem.		
208	INTRO TO DISCRETE MATH	4 credits
Prerequisites: Completion of 145 or 149 with a grade of C- or better or placement. A foundation course in discrete mathematics with applications. Topics include sets, number systems, Boolean Algebra, logic, relations, functions, recursion, matrices, induction, graphs, and trees.		
209	DISCRETE MATH FOR EDUCATORS	4 credits
Prerequisite: Completion of 140 with a grade of C- or better. Corequisite: 231. Introduction to discrete mathematics topics for middle school instruction: sets, counting, probability, recurrence relations, graph theory, logic and elementary proof techniques.		
210	CALCULUS WITH BUSINESS APPLIC	3 credits

Prerequisites: Mathematics Placement Test or completion of 145 with a grade of C- or better. Review of functions, derivatives of functions, extrema and concavity, optimization, logarithmic and exponential functions, extrema for multivariate functions. Graphing calculator required. For business or economics majors only.

215 CONCEPTS OF CALCULUS 4 credits

Prerequisite: Completion of 145 or 149 with a grade of C- or better or placement. Functions; limits and continuity; differentiation and applications of differentiation; logarithmic and exponential functions; integration and applications of integration; partial differentiation.

221 ANALYTIC GEOMETRY-CALCULUS I 4 credits

Prerequisite: Completion of 149 with a grade of C- or better, or placement. Limits; continuity; rates of change; derivatives and applications of algebraic, trigonometric, transcendental functions; curve sketching, antiderivatives and integration, areas.

222 ANALYTIC GEOMETRY-CALCULUS II 4 credits

Prerequisite: Completion of 221 with a grade of C- or better. Methods and applications of integration; sequences, series and power series; Taylor polynomials and Taylor series; parametric and polar coordinates.

223 ANALYTIC GEOMETRY-CALC III 4 credits

Prerequisite: Completion of 222 with a grade of C- or better. Vector algebra, cylindrical, spherical coordinates, vector-valued functions, curvature; functions of several variables, limit, continuity, partial derivatives, differentials, directional derivatives, maxima and minima, multiple integrals, Divergence Theorem.

231 MODEL WTH ALGEB & TRANSCEND FN 4 credits

Prerequisites: Completion of 140 with a grade of C- or better; and 100 with a grade of C- or better or placement test. Modeling and regression with algebraic, exponential, logarithmic, and trigonometric functions; systems of equations and matrices. These topics will be enhanced by the use of CAS.

240 MATH FOUND FOR EARLY CHLD EDUC 3 credits

Prerequisite: Completion of 140 with a grade of C- or better. A problem-solving and inquiry-based approach to functions and algebra, coordinate and Euclidean geometry, and elementary data analysis.

289 SEL T: MATHEMATICS 1-3 credits

Prerequisite: permission. Selected topics of interest in mathematics.

307 FUND: ADVANCED MATHEMATICS 3 credits

Prerequisite: Completion of 222 with a grade of C- or better. Logic, solving problems, and doing proofs in mathematics. Sets, extended set operations, and indexed family sets, induction. Binary relations. Functions, cardinality. Introductory concepts of algebra and analysis.

312 LINEAR ALGEBRA 3 credits

Prerequisite: Completion of 222 with a grade of C- or better or permission. Introduction to basic ideas and techniques of mathematical counting; properties of structure of systems.

420 MATH TECH AND COMMUNICATION 3 credits

Prerequisites: Completion of 222 and 312 with grades of C- or better, or permission. Graphical, numerical, and algebraic computation with applications using a variety of mathematical hardware and software: symbolic manipulators, dynamic geometry software, programs, scripts and web-browsers.

421 ADVANCED CALCULUS I 3 credits

Sequential. Prerequisite: Completion of 223 with a grade of C- or better; 307 is highly recommended. Real number system, sequences, series, set theory, continuity, differentiation, integration, partial derivatives, multiple integration, maxima and minima, convergence and uniform convergence, power series, improper integrals, transformations, line and surface integrals.

422 ADVANCED CALCULUS II 3 credits

Sequential. Prerequisite: Completion of 421 with a grade of C- or better or permission of instructor. Real number system, sequences, series, set theory, continuity, differentiation, integration, partial derivatives, multiple integration, maxima and minima, convergence and uniform convergence, power series, improper integrals, transformations, line and surface integrals.

425 COMPLEX VARIABLES 3 credits

Prerequisite: Completion of 223 with a grade of C- or better. Complex variables; elementary functions, differentiation and analytic functions; integration and Cauchy's theorem; power series and Laurent series; residue theorem; applications such as conformal mappings, inversion of integral transform.

427 APPLIED NUMERICAL METHODS I 3 credits

Prerequisites: Completion of 222 and 3460:209 with grades of C- or better or permission. Numerical methods in polynomial interpolation, rootfinding, numerical integration, and numerical linear algebra.

428 APPLIED NUMERICAL METHODS II 3 credits

Prerequisites: Completion of 335 and 427 with grades of C- or better or permission. Numerical methods in the solution of ordinary and partial differential equations. Numerical differentiation, Runge-Kutta methods, and iterative methods for ODEs, finite differences for PDEs.

430 NUM SOLUT FOR PARTL DIFF EQUA 3 credits

Prerequisite: Completion of 428 with a grade of C- or better or equivalent. For advanced undergraduate and graduate students. The study of finite difference and finite element methods for partial differential equations consistency, stability, convergence and computer implementation.

432 PARTIAL DIFFERENTIAL EQUATIONS 4 credits

Prerequisite: Completion of 335 with a grade of C- or better. The classical initial value and boundary value problems of mathematical physics developed and solved using Fourier series and integral transforms.

435 SYSTEMS OF ORD DIFF EQUATIONS 3 credits

Prerequisites: Completion of 335 and either 312 or 428 with grades of C- or better or permission. Analysis, solution of systems of equations, linear, nonlinear. Topics: stability theory, perturbation methods, asymptotic methods, applications from physical, social sciences.

436 MATHEMATICAL MODELS 3 credits

Prerequisite: Completion of 335 with a grade of C- or better, and a six-hour sequence in an approved applied area, or permission. Formulation and analysis of mathematical models in social and physical sciences. Analysis of deterministic and stochastic models. Topics may include stochastic processes, linear programming, graph theory, theory of measurement.

438 ADVANCED ENGINEERING MATH I 3 credits

Prerequisites: Completion of 335 and 312 with grades of C- or better or permission. Matrices, eigenvalue problems, systems of ODEs, vector analysis, complex variables.

439 ADVANCED ENGINEERING MATH II 3 credits

Prerequisites: Completion of 335 and 312 with grades of C- or better or permission. Special functions, Fourier series and transforms, PDEs.

441 CONCEPTS IN GEOMETRY 4 credits

Prerequisite: 307 with a grade of C- or better or permission of instructor. Axiomatic treatment of both Euclidean and non-Euclidean geometries. Other concepts included are finite geometry, transformations, constructions and inversions.

445 INTRODUCTION TO TOPOLOGY 3 credits

Prerequisite: Completion of 307 with a grade of C- or better or permission of instructor. Introduction to topological spaces and topologies, mappings, cardinality, homeomorphisms, connected spaces, metric spaces.

489 T: MATHEMATICS 1-4 credits

(May be repeated for a total of 12 credits) Prerequisite : permission of instructor. Selected topics in mathematics and applied mathematics at an advanced level.

491 W: MATHEMATICS 1-4 credits

(May be repeated) Group studies of special topics in mathematics and applied mathematics. May not be used to meet undergraduate or graduate major requirements. May be used for elective credit.

497 INDIV READING: MATH 1-2 credits

Prerequisites: senior standing and permission. Mathematics or applied mathematics majors only. Directed studies designed as an introduction to research problems, under guidance of selected faculty member.

498 SENIOR HONORS PROJECT: MATH 1-3 credits

Prerequisite: Permission of Instructor. Directed study for senior student in the Honors Program. An introduction to research problems in mathematics and applied mathematics under the guidance of selected faculty. May be repeated for up to six credits.

Course Details (3460)

101	ESSENTIALS OF COMPUTER SCIENCE	3 credits
Explore major topics in Computer Science - computing systems, data representation, hardware, programming topics, and important applications such as networks, robotics, databases, and gaming.		
125	DESCRIPTIVE COMPUTER SCIENCE	2 credits
Computer literacy: terminology; methods, media for data representation, storage; elements of a computing system; data organization.		
126	INTRO TO VISUAL BASIC PROGRMG	3 credits
Prerequisite: Completion of 3450:100 with a grade of C- or better or placement. Windows GUI and Microsoft's Visual BASIC programming environment. Design of user interfaces, event-driven programming, basic control structures, simple variables, arrays, and sequential files.		
209	COMPUTER SCIENCE I	4 credits
Prerequisite: Completion of 3450:145 or 3450:149 with a grade of C- or better or equivalent. Introduction to problem-solving methods and algorithms. Programming in a high-level language including how to design, code, debug and document programs with good programming style.		
210	COMPUTER SCIENCE II	4 credits
Prerequisites: 209 and 3450:208 with a grade of C- or better or equivalent. Dynamic memory allocation methods, elementary data structures, internal representations, and associated algorithms. Topics include lists, stacks, queues, trees, and sorting methods.		
289	SEL T: COMPUTER SCIENCE	1-3 credits
Prerequisite: permission. Selected topics of interest in computer science.		
306	ASSEMBLY & SYSTEM PROGRAMMING	4 credits
Prerequisite: Completion of 210 or equivalent with a grade of C- or better. Basic computer organization, digital logic, and data representation. Programming in assembly and C languages on a typical digital computer.		
307	INTERNET SYSTEMS PROGRAMMING	3 credits
Prerequisite: Completion of 210 or equivalent with a grade of C- or better. Overview of current programming languages, tool and scripting technologies for the Internet and World Wide Web.		
316	DATA STRUCTURES	3 credits

Prerequisites: Completion of 210 and (3450:221 or 3450:210) with grades of C- or better. A continuation of topics in 3460:210. Topics include: graphs and graph algorithms, external sorting, hashing, advanced tree and file structures.

389 INTER TOP: COMPUTER SCIENCE 1-3 credits

Prerequisite: permission of instructor. Selected topics of interest in computer science at an intermediate level.

395 INTERN: COMPUTER SCIENCE 1-12 credits

Prerequisites: Completion of 209 and 210 with grades of C- or better, and permission of a faculty supervisor. Placement in industry for experience related to computer science. (May be repeated. No more than three credits may be applied towards a computer science major.)

406 INTRODUCTION TO C & UNIX 3 credits

Prerequisite: programming experience. Syntax of C with flow structures, pointers, and command line concepts. For UNIX, shell scripts, UNIX file structure, system calls and interprocess communication protocols. (Not an approved mathematics and computer science major, minor, or certificate elective.)

408 WINDOWS PROGRAMMING 3 credits

Prerequisites: Completion of 208 or 210 or 406 with a grade of C- or better or permission. Windows operating systems, integrated development environment, event-driven programming, graphical user interface design, object libraries, component object model, object linking, embedding, client-server objects.

418 INTROD TO DISCRETE STRUCTURES 3 credits

Prerequisite: Completion of 210 with a grade of C- or better or permission. Introduction to a number of structures in algebra of particular use to student in computer science. Topics include algorithms and flow chart language, graphs and digraphs, trees, lattices codes.

421 OBJECT-ORIENTED PROGRAMMING 3 credits

Prerequisite: Completion of 210 with a grade of C- or better. Object-oriented design, analysis, and programming using different development models. Comparison with other programming paradigms.

426 OPERATING SYSTEMS 3 credits

Prerequisites: Completion of 210 and (4450:320 or 3460:306), or equivalents with grades of C- or better. Introduction to aspects of all modern operating systems: types; storage management; process and resource control; interacting process synchronization.

428 UNIX SYSTEM PROGRAMMING 3 credits

Prerequisite: Completion of 210 with a grade of C- or better and knowledge of C. An overview of the UNIX operating system. Shell programming. Process management, processor management, storage management, scheduling algorithms, resource protection, and system programming.

430 THEORY OF PROGRAMMING LANGS 3 credits

Prerequisite: Completion of 210 with a grade of C- or better. Advanced concepts underlying programming languages and their applications, formal definitions of programming languages, Backus Normal Form, semantics. Alternative programming paradigms including functional programming.		
435	ALGORITHMS	3 credits
Prerequisite: Completion of 316 with a grade of C- or better. Design and analysis of efficient algorithms for random access machines; derivation of pattern classification algorithms.		
440	COMPILER DESIGN	3 credits
Prerequisites: Completion of 210 and (4450:320 or 3460:306), with a grade of C- or better. Techniques used in constructing compilers, including lexical and syntactic analysis, parsing techniques, object code generation and optimization. Course requires a compiler implementation project.		
445	INTRODUCTION TO BIOINFORMATICS	3 credits
Prerequisite: Completion of 210 with a grade of C- or better or permission. Introduce major themes in bioinformatics. Topics include concepts of molecular genetics, biological databases, database searching, sequence alignments, phylogenetic trees, structure prediction, and microarray data analysis.		
453	COMPUTER SECURITY	3 credits
Prerequisites: Completion of 210 with a grade of C- or better. Principles of computer security -- cryptography, authentications, secure network protocols, intrusion detection and countermeasures.		
455	DATA COMMUN & COMP NETWORKS	3 credits
Prerequisites: Completion of 210 with a grade of C- or better. ISO-OSI, TCP/IP, SNA data switching, protocols, flow and error control, routing, topology, Network trends, network taxonomies, and socket-based programming.		
457	COMPUTER GRAPHICS	3 credits
Prerequisite: Completion of 210 with a grade of C- or better and knowledge of C. Topics in vector and raster graphics, interactive graphics languages, scan conversion, clipping, geometric transformation, projection, shading, animation and virtual reality.		
460	ARTIFICIAL INTEL & HEURIST PRG	3 credits
Prerequisite: Completion of 210 with a grade of C- or better. Study of various programs which have displayed some intelligent behavior. Exploration of level at which computers can display intelligence.		
463	PERVASIVE COMPUTING	3 credits
Prerequisites: Completion of 210 with a grade of C- or better. Computing from a wireless perspective. Topics include protocols, algorithms, security and sensor networks.		
465	COMPUTER ARCHITECTURE	3 credits

Prerequisite: Completion of 210 and (4450:320 or 3460:306), with a grade of C- or better. An introduction to the hardware organization of the computer at the register, processor and systems level. In-depth study of the architecture of a particular computer system family.

468 MOBILE ROBOTICS 3 credits

Prerequisites: Completion of 210 with a grade of C- or better. Introduction to history, hardware and software components, and design of autonomous mobile robots. Multiple projects involving both physical robots and software emulation.

475 DATABASE MANAGEMENT 3 credits

Prerequisite: Completion of 210 with a grade of C- or better. Fundamentals of database organization, data manipulations and representation, data integrity, privacy.

477 INTRO TO PARALLEL PROCESSING 3 credits

Prerequisites: Completion of 210 with a grade of C- or better and knowledge of C. Commercial processors: past and present. Parallel languages, models of parallel computation, parallel algorithm design and performance evaluation. Parallel paradigms with relation to real world applications.

480 SOFTWARE ENGINEERING 3 credits

Prerequisite: Completion of 210 with a grade of C- or better. Introduction to formal software specification and validation. Introduction of methodologies and tools of design, development and validation, and maintenance.

489 T: COMPUTER SCIENCE 1-3 credits

Prerequisite: permission of instructor. Selected topics in computer science at an advanced level.

490 SENIOR SEMINAR IN COMPUTER SCI 3 credits

Prerequisite: Must have completed at least 30 hours of 3460 (computer science) courses. Professional software development, surviving "Mission Impossible" projects, computer ethics, intellectual property rights (patents and copyrights), and other current topics.

497 INDIV STUDY: COMPUTER SCIENCE 1-3 credits

(May be repeated. Can apply to degree, minor or certificate only with department approval.) Prerequisite: permission. Directed studies designed as introduction to research problems under guidance of designated faculty member.

498 SR HONORS PROJ IN COMP SCIENCE 1-3 credits

Prerequisites: 497 (honors). Directed study for senior student in the Honors Program who has completed 3460:497. An introduction to research problems in the computer science under the guidance of selected faculty.

Course Details (3470)

250	STATISTICS FOR EVERYDAY LIFE	4 credits
Prerequisite: Mathematics Placement Test. Conceptual approach to the basic ideas and reasoning of statistics. Topics include descriptive statistics, probability (uncertainty), statistical inference (estimation and hypothesis testing). Computer applications laboratory.		
260	BASIC STATISTICS	3 credits
Prerequisite: Mathematics Placement Test or 3450:100. Applied approach to data description and statistical inference (hypothesis testing, estimation). Analysis of ratios, rates, and proportions. Computer applications. Laboratory.		
261	INTRODUCTORY STATISTICS I	2 credits
Prerequisite: Mathematics Placement Test. Descriptive statistics, tabular and graphical data displays; probability, probability distributions. Introduction to statistical inference (hypothesis testing, estimation); one-sample parametric and nonparametric methods. Computer applications.		
262	INTRODUCTORY STATISTICS II	2 credits
Prerequisite: 261 or equivalent. Parametric and nonparametric methods of statistical inference for paired data and two-sample problems; one-way ANOVA, simple linear regression and correlation. Computer applications.		
289	SEL T: STATISTICS	1-3 credits
Prerequisite: Permission. Selected topics of interest in statistics.		
360	STATISTICAL INVESTIGATIONS	3 credits
Prerequisites: 3470:250 or 3470:260 or 3470:262. This course provides practical statistical methods beyond the introductory course. The topics include design of experiments, data analysis, multiple regression and modern software use.		
401	PROBABILITY & STAT FOR ENGINRS	2 credits
Prerequisite: 3450:222. Introduction to probability, statistics, random variables, data descriptions, statistical inference, confidence intervals, hypothesis testing, design of experiments, and applications of statistics to engineering.		
450	PROBABILITY	3 credits
Prerequisite: 3450:221. Introduction to probability, random variables and probability distributions, expected value, sums of random variables, Markov processes.		
451	THEORETICAL STATISTICS I	3 credits

		Sequential. Prerequisite: 3450:223. Elementary combinatorial probability theory, probability distributions, mathematical expectation, functions of random variables, sampling distributions, point and interval estimation, tests of hypotheses, regression and correlation, introduction to experimental designs.
452	THEORETICAL STATISTICS II	3 credits
		Sequential. Prerequisite: 3450:223. Elementary combinatorial probability theory, probability distributions, mathematical expectation, functions of random variables, sampling distributions, point and interval estimation, tests of hypotheses, regression and correlation, introduction to experimental designs.
461	APPLIED STATISTICS	4 credits
		Prerequisite: 3450:222 or equivalent. Applications of statistical theory to natural and physical sciences and engineering, including probability distributions, interval estimation, hypotheses testing (parametric and nonparametric), and simple linear regression and correlation.
462	APPLIED REGRESSION AND ANOVA	4 credits
		Prerequisites: 461 or equivalent or 460 or permission. Applications of the techniques of regression and multifactor analysis of variance.
465	DESIGN OF SAMPLE SURVEYS	3 credits
		Prerequisite: 461 or equivalent. Design and analysis of frequently used sample survey techniques.
469	RELIABILITY MODELS	3 credits
		Prerequisite: 461. Selected topics in reliability modeling including parametric and nonparametric models, competing modes of failure, censored data and accelerated life models.
471	ACTUARIAL SCIENCE I	3 credits
		Prerequisite: 451 or 461 or equivalent. Study of various statistical, financial, and mathematical calculations used to determine insurance premiums related to contingent risks based on individual risk model frameworks.
472	ACTUARIAL SCIENCE II	3 credits
		Prerequisite: 471. Continuation of Actuarial Science I. Study of multiple life functions, multiple decrement models, valuation theory for pension plans, insurance models including expenses, nonforfeiture benefits and dividends.
473	SURVIVAL ANALYSIS	3 credits
		Prerequisite: 3470:461. Basic concepts in survival analysis, censoring and data truncation, estimation of survival models, nonparametric hazard and survival function estimation, comparing survival times between groups.
475	FOUNDATIONS OF STAT QUAL CNTRL	3 credits
		Prerequisite: 461 or equivalent. Course provides a solid foundation in the theory and applications of statistical techniques widely used in industry.

480	STATISTICAL DATA MANAGEMENT	3 credits
Prerequisites: 461. Students learn data organization and structures, design of statistical data bases, statistical software analysis, importing and exporting data between software, and missing data analysis.		
489	T: STATISTICS	1-3 credits
(May be repeated for a total of six credits) Prerequisite: permission. Selected topics in advanced statistics, including quality control, reliability, sampling techniques, decision theory, advanced inference, stochastic processes and others.		
491	W: STATISTICS	1-3 credits
(May be repeated with change of topic) Group studies of special topics in statistics. May not be used to meet undergraduate or graduate major requirements in mathematics and statistics. May be used for elective credit only.		
495	STATISTICAL CONSULTING	1-3 credits
Prerequisite: 480 or permission. Students will be assigned to work with an instructor on current projects in the Center for Statistical Consulting. May be repeated for a total of 4 credits; however, only 2 credits will count toward major requirements. Does not count for elective credit for Mathematical Sciences majors.		
497	INDIV READING: STATISTICS	1-2 credits
(May be repeated for a total of four credits) Prerequisites: senior standing and permission. Directed studies in statistics designed as introduction to research problems under guidance of selected faculty member.		
498	SENIOR HONORS PROJECT	1-3 credits
Prerequisite: 489 (honors). Directed study for senior student in the University Honors Program who has completed 3450:489 (honors). An introduction to research problems in the mathematical sciences under the guidance of selected faculty.		

Course Details (3500)

101	BEG: MODERN LANGUAGE I	4 credits
Sequential. Acquisition of basic reading, speaking, writing and listening comprehension skills, with emphasis on development of self-expression in everyday situations, through culturally authentic media and texts.		
102	BEG: MODERN LANGUAGE II	4 credits
Sequential. Acquisition of basic reading, speaking, writing and listening comprehension skills, with emphasis on development of self-expression in everyday situations, through culturally authentic media and texts.		
201	INTER: MODERN LANGUAGE I	3 credits
Sequential. Prerequisite: 102 or equivalent. Continuing acquisition of competence in reading, writing, speaking, and listening comprehension through use of culturally authentic materials, with emphasis on developing accuracy and self-expression in a wide range of situations.		
202	INTER: MODERN LANGUAGE II	3 credits
Sequential. Prerequisite: 102 or equivalent. Continuing acquisition of competence in reading, writing, speaking, and listening comprehension through use of culturally authentic materials, with emphasis on developing accuracy and self-expression in a wide range of situations.		
422	MOD LANG: ST ADV LANG SKL OR L	1-4 credits
Prerequisite: Modern Languages 202 or equivalent. Development of specialized language skills or reading of significant works of literature or culture not studied in other courses.		
490	W: MODERN LANGUAGES	1-4 credits
Prerequisite: permission of instructor. (May be repeated for a total of 8 credits) Group studies of special topics in modern languages.		
497	INDIV READING: MOD LANG	1-3 credits
Prerequisites: 202 and permission of department chair.		
498	SENIOR HONORS PROJECT	1-3 credits
(May be repeated for a total of six credits) Prerequisites: senior standing in Honors Program and permission. Open only to language major enrolled in Honors Program. Independent study leading to completion of senior honors thesis or other original work.		

Course Details (3501)

101	BEGINNING ARABIC I	4 credits
Sequential. Acquisition of basic speaking, listening comprehension skills, with emphasis on development of self-expression in everyday situations, through culturally authentic media and texts.		
102	BEGINNING ARABIC II	4 credits
Sequential. Prerequisite: 101 or equivalent. Acquisition of basic reading, speaking, writing and listening comprehension skills, with emphasis on development of self-expression in everyday situations, through culturally authentic media and texts.		
201	INTERMEDIATE ARABIC I	4 credits
Sequential. Prerequisite: 102 or equivalent. Continuing acquisition of competence in speaking, listening comprehension, reading and writing through use of culturally authentic materials, with emphasis on developing accuracy and self-expression. (Conducted in Arabic).		
202	INTERMEDIATE ARABIC II	4 credits
Sequential. Prerequisite: 201 or equivalent. Continuing acquisition of competence in speaking, listening comprehension, reading and writing through use of culturally authentic materials, with emphasis on developing accuracy and self-expression. (Conducted in Arabic).		
210	ARABIC CULTURE THROUGH FILM	2 credits
Prerequisites: 32 credit hours including English Composition I and II (3300:111, 112) or equivalent. Exploration of Arabic culture through viewing of films subtitled in English. Readings and discussions in English. Does not count toward minor in Arabic.		
301	COMPOSITION AND CONVERSATION	4 credits
Prerequisite: 202 or equivalent. Further development of language skills acquired at the intermediate level: Writing, Speaking, Listening Comprehension and Reading. (Conducted in Arabic).		
302	ARABIC MEDIA	4 credits
Prerequisite: 202 or equivalent. Further development of practical language skills with a focus on Arabic media. The course also will enrich students' understanding of Arabic culture. (Conducted in Arabic).		
303	INTRO:MODERN ARABIC LITERATURE	4 credits
Prerequisite: 202 or equivalent. Enhancement of students' communicative skills with emphasis on development of the ability to read, appreciate and discuss Modern Arabic Literature. (Conducted in Arabic).		
304	CULTURAL READINGS IN ARABIC	4 credits

Course Details (3502)

101	BEGINNING CHINESE I	4 credits
Sequential. Acquisition of basic reading, speaking, writing, and listening comprehension skills, with emphasis on development of self-expression in everyday situations through culturally authentic media and texts.		
102	BEGINNING CHINESE II	4 credits
Sequential. Prerequisite: 101 or equivalent. Acquisition of basic reading, speaking, writing, and listening comprehension skills, with emphasis on development of self-expression in everyday situations through culturally authentic media and texts.		
201	INTERMEDIATE CHINESE I	4 credits
Sequential. Prerequisite: 102 or equivalent. Continuing acquisition of speaking, listening, comprehension, reading, and writing competency through use of culturally authentic materials; emphasis on developing accuracy of self-expression. (Conducted in Chinese.)		
202	INTERMEDIATE CHINESE II	4 credits
Sequential. Prerequisite: 201 or equivalent. Continuing acquisition of speaking, listening, comprehension, reading, and writing competency through use of culturally authentic materials; emphasis on developing accuracy of self-expression. (Conducted in Chinese.)		
210	CHINESE CULTURE THROUGH FILM	2 credits
Prerequisites: 32 credit hours including English Composition I and II (3300:111, 112) or equivalent. Exploration of Chinese culture through viewing of films subtitled in English. Readings and discussions in English. Does not count toward minor in Chinese.		
301	CHINESE CONVERSATION	4 credits
Prerequisite: 202 or equivalent. Continuing development of oral expression, listening comprehension and conversational ability, with emphasis on expressing and supporting opinions. (Conducted in Chinese.)		
302	CHINESE COMPOSITION	4 credits
Prerequisite: 202 or equivalent. Development of writing skills through intensive practice and study of written expression in Chinese. Emphasis on composing extensive descriptive narrations and personal letters. (Conducted in Chinese.)		
303	CHINESE CONV THROUGH MEDIA	4 credits
Sequential. Prerequisite: 202 or equivalent. Development of oral expression and listening comprehension, with emphasis on discussing current topics and expressing and supporting opinions based on media clips. (Conducted in Chinese.)		

304	CHINESE READING AND WRITING	4 credits
Prerequisite: 202 or equivalent. Continuing development of reading ability through study of Chinese publications, and writing summaries of the texts. (Conducted in Chinese.)		
311	CHINESE CULTURAL EXP ABROAD	1-8 credits
Prerequisite: Permission of Department Chair. Residence and study abroad in a Chinese-speaking country. May be repeated once with different content. Only 8 credits allowable for minor in Chinese.		
422	ST: LANG SKLS, OR CULT OR LIT	1-4 credits
Prerequisite: Two of the group 301,302,303,304 or permission of instructor. Development of specialized language skills or reading of significant works of literature or culture not studied in other courses. (May be repeated once under different topic for a total of 8 credits.)		
497	INDIV READING: CHINESE	1-4 credits
Prerequisite: 202 and permission of the instructor. Individual study under guidance of professor who directs and coordinates student's reading and research. May be repeated once for a total of 8 credits.		

Course Details (3510)

101	BEGINNING LATIN I	4 credits
Sequential. Reading, writing and translation; oral and written drill; analysis of grammatical structure and English vocabulary building.		
102	BEGINNING LATIN II	4 credits
Sequential. Prerequisite: 101 or equivalent. Reading, writing and translation; oral and written drill; analysis of grammatical structure and English vocabulary building.		
190	ENGL WORDS LATIN & GREEK ELEM	3 credits
The influence of Latin and Greek on English vocabulary with some attention to the use of these languages in the scientific and legal fields. No foreign language is necessary.		
201	INTERMEDIATE LATIN I	3 credits
Prerequisite: 102 or equivalent. A survey of readings of the less difficult authors such as Pliny, Caesar, Plautus, Cicero's Letters or equivalent material.		
202	INTERMEDIATE LATIN II	3 credits
Prerequisite: 201 or equivalent. A survey of readings of the less difficult authors such as Pliny, Caesar, Plautus, Cicero's Letters or equivalent material.		
303	ADVANCED LATIN I	3 credits
Prerequisites: 202 or equivalent. Satirists, dramatists, philosophical, religious writers, lyric and elegiac poets, medieval writers. (May be repeated for credit with change of subject)		
304	ADVANCED LATIN II	3 credits
Prerequisites: 202 or equivalent. Satirists, dramatists, philosophical, religious writers, lyric and elegiac poets, medieval writers. (May be repeated for credit with change of subject)		
497	LATIN READING & RESEARCH	3 credits
Prerequisite: permission of instructor. Generally Latin epigraphy, prose composition or philology; numismatics or certain other archaeological topics may be offered. (May be repeated for credit with change of subject)		
498	LATIN READING & RESEARCH	3 credits
Prerequisite: permission of instructor. Generally Latin epigraphy, prose composition or philology; numismatics or certain other archaeological topics may be offered. (May be repeated for credit with change of subject)		

Course Details (3520)

101	BEGINNING FRENCH I	4 credits
Sequential. Acquisition of basic reading, speaking, writing and listening comprehension skills, with emphasis on development of self-expression in everyday situations, through culturally authentic media and texts.		
102	BEGINNING FRENCH II	4 credits
Sequential. Prerequisite: 101 or equivalent. Acquisition of basic reading, speaking, writing and listening comprehension skills, with emphasis on development of self-expression in everyday situations, through culturally authentic media and texts.		
201	INTERMEDIATE FRENCH I	3 credits
Sequential. Prerequisite: 102 or equivalent. Continuing acquisition of competence in reading, writing, speaking, and listening comprehension through use of culturally authentic materials, with emphasis on developing accuracy and self-expression in a wide range of situations.		
202	INTERMEDIATE FRENCH II	3 credits
Sequential. Prerequisite: 201 or equivalent. Continuing acquisition of competence in reading, writing, speaking, and listening comprehension through use of culturally authentic materials, with emphasis on developing accuracy and self-expression in a wide range of situations.		
300	CONTEMP FRENCH AND FRANCOPHONE CULT	3 credits
Prerequisite: 3520: 202 or permission. Introduction to contemporary lives and cultures in France and other Francophone countries as portrayed in recent documents, literary works and films.		
301	FRENCH CONVERSATION	3 credits
Sequential. Prerequisite: 202 or equivalent. Development of speaking skills beyond the intermediate level. Practice of listening comprehension, correct pronunciation, extended and grammatically sound discourse.		
302	FRENCH COMPOSITION	3 credits
Sequential. Prerequisite: 202 or equivalent. Development of writing skills beyond intermediate level.		
303	FRENCH CULTURE & CIVILIZATION I	3 credits
Prerequisite: 202 or equivalent. History of France and French cultural heritage from its origins to mid-20th century.		
304	FRENCH CULTURE & CIVILIZATION II	3 credits
Prerequisite: 202 or equivalent. Modern history of France. Focus on political and social trends since 1960.		

305	INTRODUCTION TO FRENCH LIT I	3 credits
Prerequisite: 202 or equivalent. Survey of French literature from its origins to present, with lectures, reading and class discussion of representative works.		
306	INTRODUCTION TO FRENCH LIT II	3 credits
Prerequisite: 202 or equivalent. Survey of French literature from its origins to present, with lectures, reading and class discussion of representative works.		
308	INTERNSHIP IN FRANCE	1-3 credits
Permission of the French section advisor. (May be taken for a total of six credits. No more than three credits may be applied toward a 3520 major.) Student's internship which results in portfolio on career applications of the discipline of French.		
311	CONTEMPORARY FRENCH SOCIETY	3 credits
Prerequisite: 202 or equivalent. A study of contemporary French society, including customs and political and social issues. Conducted in France. Counts toward Culture and Civilization requirement for major.		
312	FRENCH CULT EXP ABROAD	1-3 credits
Prerequisite: Permission of the French section advisor. May be taken for a total of six credits. No more than three credits may be applied toward a 3520 major. Student's residence and independent study/project in French-speaking country which results in demonstrable understanding of the country's culture		
315	FRENCH PHONETICS	3 credits
Prerequisite or corequisite: 202 or equivalent. Intensive drill in pronunciation with correction and improvement of student's accent, emphasis on articulation, intonation and rhythm.		
350	THEMES IN FRENCH LIT IN TRANSL	3 credits
Prerequisite: 3400:210 or 3400:221. (May not be taken for credit toward the French major) Readings, discussion of novels and plays relating to selected themes of French literature. Texts and discussion in English.		
351	TRANSLATION: FRENCH	3 credits
Prerequisite: 202 or equivalent. Study of translation techniques, both French to English and English to French. Emphasis on stylistics and interpretation of idioms.		
352	TRANSLATION: BUSINESS FRENCH	3 credits
Prerequisite: 351 or equivalent. Application of translation techniques with particular stress on business styles, formats, and vocabulary. Especially recommended for students interested in international business.		
402	ADVANCED FRENCH GRAMMAR	3 credits
Prerequisite: 302 or equivalent. Advanced study of normative French grammar with emphasis on syntax, morphology, grammatical structure and phonetic principles.		

403	ADV FRENCH: WRITTEN & ORAL COM	3 credits
Prerequisite: 301 & 302 or permission. Development of writing and speaking skills beyond that achieved in 301 and 302 through intensive practice and grammar review.		
407	FRENCH LIT OF MID AGES & RENAI	4 credits
Prerequisite: 305 or 306 or equivalent. Reading and discussion of selected Medieval and Renaissance literary works. Conducted in French.		
413	FRENCH CINEMA	3 credits
Prerequisites: 301 or 302; or permission from instructor. Study and discussion of various aspects of French culture and civilization as characterized in movies.		
419	19TH CENTURY FRENCH LITERATURE	4 credits
Prerequisite: 305 or 306 or equivalent. Reading and discussion of selected works pertaining to romantic, realistic and naturalistic movements. Conducted in French.		
422	FRENCH: ST ADV LNG SKL CULT LI	1-4 credits
Prerequisite: 202 or equivalent. (May be repeated) Development of specialized language skills or reading of significant works of literature or culture not studied in other courses.		
427	20TH CENTURY FRENCH LITERATURE	4 credits
Prerequisite: 305 or 306 or equivalent. Reading and discussion of the most representative works of period. Conducted in French.		
430	CONTEMPORARY QUEBEC	3 credits
Prerequisite: 301, or 302 or permission. Historical, political, sociological and cultural overviews of Québec, offering an in-depth examination of questions of identity through the study of literature and popular culture.		
431	FRANCOPHONE LITERATURE	3 credits
Prerequisite: 300 or 301 or 302 or permission. The problematics of identity (race, class) in postcolonial context, studied through literary texts by authors from Africa, Caribbean, and Québec.		
460	SEL THEMES: FRENCH LIT	3 credits
(May be repeated.) Conducted in French. Prerequisite: 305 and 306 or equivalent. Reading and discussion of literary works selected according to an important theme.		
497	INDIVIDUAL READING IN FRENCH	1-3 credits
Prerequisite: 202 and permission of department chair.		
498	INDIVIDUAL READING IN FRENCH	1-3 credits
Prerequisite: 202 and permission of department chair.		

Course Details (3530)

101	BEGINNING GERMAN I	4 credits
Sequential. Acquisition of basic reading, speaking, writing and listening comprehension skills, with emphasis on development of self-expression in everyday situations, through culturally authentic media and texts.		
102	BEGINNING GERMAN II	4 credits
Sequential. Prerequisite: 101 or equivalent. Acquisition of basic reading, speaking, writing and listening comprehension skills, with emphasis on development of self-expression in everyday situations, through culturally authentic media and texts.		
201	INTERMEDIATE GERMAN I	3 credits
Sequential. Prerequisite: 102 or equivalent. Continuing acquisition of competence in reading, writing, speaking, and listening comprehension through use of culturally authentic materials, with emphasis on developing accuracy and self-expression in a wide range of situations.		
202	INTERMEDIATE GERMAN II	3 credits
Sequential. Prerequisite: 201 or equivalent. Continuing acquisition of competence in reading, writing, speaking, and listening comprehension through use of culturally authentic materials, with emphasis on developing accuracy and self-expression in a wide range of situations.		
301	GERMAN CONVERSATION & COMPOSIT	3 credits
Prerequisite: 202 or equivalent. Advanced composition using German models, special attention to words and idioms, development of oral expression and conversational ability.		
302	SPEC TOPIC IN GERMN CONV & COM	3 credits
Prerequisite: 202 or equivalent or permission of instructor. May be repeated for credit. Special attention to development of oral expression and conversational ability.		
310	SEX, VIOL, TER IN GER FRY TALE	3 credits
Exploration of historical context of German fairy tales and interpretation plus modern significance of texts according to Jungian archetypal psychology. Readings and discussions in English.		
403	ADVANCED GERMAN CONV & COMP	3 credits
Prerequisite: 302 or equivalent. Thorough analysis of syntax, morphology, phonetic principles and grammatical structure.		
404	ADVANCED GERMAN CONV & COMP	3 credits

Prerequisite: 302 or equivalent. Thorough analysis of syntax, morphology, phonetic principles and grammatical structure.

406	GERMAN CULTURE & CIVILIZATION	3 credits
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Prerequisite: 302 or 306 or equivalent. Particular emphasis on customs, traditions, literary trends and artistic tendencies that constitute German's contribution to Western civilization.

407	GERMAN CULTURE & CIVILIZATION	3 credits
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Prerequisite: 302 or 306 or equivalent. Particular emphasis on customs, traditions, literary trends and artistic tendencies that constitute German's contribution to Western civilization.

422	GRMN: ST ADV LANG SKL/CULT/LIT	1-4 credits
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Prerequisite: 202 or equivalent. (May be repeated) Development of specialized language skills or reading of significant works of literature or culture not studied in other courses.

497	INDIVIDUAL READING IN GERMAN	1-3 credits
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Prerequisite: 202 and permission of department chair.

498	INDIVIDUAL READING IN GERMAN	1-3 credits
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Prerequisite: 202 and permission of department chair.

Course Details (3550)

101	BEGINNING ITALIAN I	4 credits
Sequential. Acquisition of basic reading, speaking, writing and listening comprehension skills, with emphasis on development of self-expression in everyday situations, through culturally authentic media and texts.		
102	BEGINNING ITALIAN II	4 credits
Sequential. Acquisition of basic reading, speaking, writing and listening comprehension skills, with emphasis on development of self-expression in everyday situations, through culturally authentic media and texts.		
201	INTERMEDIATE ITALIAN I	3 credits
Sequential. Prerequisite: 102 or equivalent. Continuing acquisition of competence in reading, writing, speaking, and listening comprehension through use of culturally authentic materials, with emphasis on developing accuracy and self-expression in a wide range of situations.		
202	INTERMEDIATE ITALIAN II	3 credits
Sequential. Prerequisite: 102 or equivalent. Continuing acquisition of competence in reading, writing, speaking, and listening comprehension through use of culturally authentic materials, with emphasis on developing accuracy and self-expression in a wide range of situations.		
301	ITALIAN COMPOSITION & CONVERSA	3 credits
Prerequisite: 202 or equivalent. Italian composition using Italian models, special attention to words and idioms and development of oral expression and conversational ability.		
302	ITALIAN COMPOSITION & CONVERSA	3 credits
Prerequisite: 202 or equivalent. Italian composition using Italian models, special attention to words and idioms and development of oral expression and conversational ability.		
422	ITALIAN: ST ADV LNG SKL CULT L	1-4 credits
Prerequisite: 202 or equivalent. (May be repeated) Development of specialized language skills or reading of significant works of literature or culture not studied in other courses.		
497	INDIVIDUAL READING IN ITALIAN	1-3 credits
Prerequisite: 202 and permission of the department chair.		

Course Details (3560)

101	BEGINNING JAPANESE I	4 credits
Sequential. Acquisition of basic reading, speaking, writing, and listening comprehension skills.		
102	BEGINNING JAPANESE II	4 credits
Sequential. Prerequisite: 101 or equivalent. Acquisition of basic reading, speaking, writing, and listening comprehension skills.		
201	INTERMEDIATE JAPANESE I	3 credits
Sequential. Prerequisite: 102 or equivalent. Continuing development of reading, writing, speaking, and listening comprehension skills.		
202	INTERMEDIATE JAPANESE II	3 credits
Sequential. Prerequisite: 201 or equivalent. Continuing development of reading, writing, speaking, and listening comprehension skills.		
210	JAPANESE CULTURE THROUGH FILM	2 credits
Prerequisites: 32 credit hours including English Composition I and II (3300:111, 112) or equivalent. Exploration of various aspects of Japanese culture through viewing of films. Films are subtitled in English. Readings and discussions in English.		
422	ST: LANG SKILLS, CULTURE, LIT	3 credits
Prerequisite: 202 or equivalent. (May be repeated). Development of specialized language skills or reading of significant works of literature or culture not studied in other courses.		
497	INDIVIDUAL READING IN JAPANESE	1-3 credits
Prerequisite: 202 or permission of the department chair. Directed study in an area of individual interest chosen by the student in consultation with the instructor.		

Course Details (3570)

101	BEGINNING RUSSIAN I	4 credits
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Sequential. Acquisition of basic reading, speaking, writing and listening comprehension skills, with emphasis on development of self-expression in everyday situations, through culturally authentic media and texts.

102	BEGINNING RUSSIAN II	4 credits
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Sequential. Acquisition of basic reading, speaking, writing and listening comprehension skills, with emphasis on development of self-expression in everyday situations, through culturally authentic media and texts.

201	INTERMEDIATE RUSSIAN I	3 credits
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Sequential. Prerequisite: 102 or equivalent. Continuing acquisition of competence in reading, writing, speaking, and listening comprehension through use of culturally authentic materials, with emphasis on developing accuracy and self-expression in a wide range of situations.

202	INTERMEDIATE RUSSIAN II	3 credits
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Sequential. Prerequisite: 102 or equivalent. Continuing acquisition of competence in reading, writing, speaking, and listening comprehension through use of culturally authentic materials, with emphasis on developing accuracy and self-expression in a wide range of situations.

497	INDIVIDUAL READING IN RUSSIAN	1-3 credits
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Prerequisite: 202 and permission of the department chair.

Course Details (3580)

101	BEGINNING SPANISH I	4 credits
Sequential. Acquisition of basic reading, speaking, writing and listening comprehension skills, with emphasis on development of self-expression in everyday situations, through culturally authentic media and texts.		
102	BEGINNING SPANISH II	4 credits
Sequential. Prerequisite: 101 or equivalent. Acquisition of basic reading, speaking, writing and listening comprehension skills, with emphasis on development of self-expression in everyday situations, through culturally authentic media and texts.		
111	INTENSIVE BEGIN SPANISH I	4 credits
Sequential. Prerequisite: Minimum of two years of prior study of Spanish at the secondary level or the equivalent, or a satisfactory score on the UA Spanish Placement Examination, or permission of the instructor. Acquisition of basic reading, speaking, writing, and listening comprehension skills, with emphasis on development of self-expression. Sequence covers the entire first year in one semester.		
112	INTENSIVE BEGIN SPANISH II	4 credits
Sequential. Prerequisite: Completion of 3580:101 with a grade of B or better, or completion of 3580:111 with a grade of C or better, or a minimum of three years of prior study of Spanish at the secondary level or the equivalent and/or a satisfactory score on the UA Spanish Placement Examination, or permission of the instructor. Acquisition of basic reading, speaking, writing, and listening comprehension skills, with emphasis on development of self-expression. Sequence covers the entire first year in one semester.		
201	INTERMEDIATE SPANISH I	3 credits
Sequential. Prerequisite: 102 or equivalent. Continuing acquisition of competence in reading, writing, speaking, and listening comprehension through use of culturally authentic materials, with emphasis on developing accuracy and self-expression in a wide range of situations.		
202	INTERMEDIATE SPANISH II	3 credits
Sequential. Prerequisite: 201 or equivalent. Continuing acquisition of competence in reading, writing, speaking, and listening comprehension through use of culturally authentic materials, with emphasis on developing accuracy and self-expression in a wide range of situations.		
211	INTENSIVE INTERMD SPANISH I	3 credits
Prerequisites: Completion of 3580:102 with a grade of B or better, or completion of 3580:112 with a grade of C or better, or minimum of three years of prior study of Spanish at the secondary level or the equivalent and/or a satisfactory score on the UA Spanish Placement Examination, or permission of the instructor. Continuing acquisition of reading, speaking, writing, and listening comprehension skills, with emphasis on development of self-expression. Sequence covers entire year in one semester.		

212	INTENSIVE INTERMD SPANISH II	3 credits
Prerequisites: completion of 3580:201 with a grade of B or better, or completion of 3580:211 with a grade of C or better, or minimum of three years of prior study of Spanish at the secondary level or the equivalent and/or a satisfactory score on the UA Spanish Placement Examination, or permission of the instructor. Continuing acquisition of reading, speaking, writing, and listening comprehension skills, with emphasis on development of self-expression. Sequence covers entire second year in one semester.		
301	SPANISH CONVERSATION	3 credits
Prerequisite: 202 or equivalent. Development of oral expression, listening comprehension and conversational ability.		
302	SPANISH COMPOSITION	3 credits
Prerequisite: 202 or equivalent. Development of writing skills through intensive practice and study of written expression in Spanish. Conducted in Spanish.		
303	SPANISH GRAMMAR	3 credits
Prerequisite: 202 or equivalent. Post-intermediate review and study of grammar and basic principles of grammatical analysis. Conducted in Spanish.		
311	SPANISH/SPANISH-AM CULT EXPER	1-6 credits
Prerequisite: Permission of department chair. Student's residence and study in a Spanish-speaking country. Repeatable once with different content, 12 credits maximum. Only 9 credits may be applied to Spanish minor.		
322	SPECIAL TOPICS: SPANISH	3 credits
Prerequisite: 3580: 202. Development of specialized language and/or cultural skills for special purposes.		
340	INTRO TO SPANISH & SP-AMER LIT	3 credits
Prerequisite: two of the group 301, 302, and 303 or permission of instructor. Reading and discussion of Spanish and Spanish-American literature of all genres. Introduction to the fundamentals of literary criticism and literary movements. Conducted in Spanish.		
350	LITERATURE OF SPAN-AM IN TRANS	3 credits
Prerequisites: 3400:210 or 3400:221. (May not be taken for credit toward the Spanish major or minor.) Reading, discussion of novels, short stories of major Spanish-American authors. Texts and discussion in English.		
351	SPANISH FOR PROFESSIONALS: BUS	3 credits
Prerequisites: 301, 302, and 303 or permission of instructor. Study of business terminology as well as cultural factors affecting the conduct of business with Hispanic nations and populations. Conducted in Spanish.		
401	ADVANCED SPANISH CONVERSATION	3 credits

Prerequisites: 301 and either 302 or 303 or permission of instructor. Development of speaking skills at a level beyond that achieved in 301. Conducted in Spanish.		
402	ADVANCED SPANISH COMPOSITION	3 credits
Prerequisite: 302 and either 301 or 303 or permission of instructor. Development of writing skills at a level beyond that achieved in 302. Conducted in Spanish.		
403	ADVANCED GRAMMAR	3 credits
Prerequisites: 303 and either 301 or 302 or permission of instructor. Advanced study of Spanish syntax and grammatical analysis. Conducted in Spanish.		
404	INTRO: SPANISH LINGUISTICS	4 credits
Prerequisites: 401, 402, and 403 or permission of instructor. This course provides a detailed overview of the structure of Spanish and areas of inquiry within linguistics: phonetics, phonology, morphology, syntax, semantics and applied fields.		
405	SPANISH LINGUISTICS: PHONOLOGY	4 credits
Prerequisite: 401, 402, and 403 or permission of instructor. Descriptive study of Spanish phonetics and morphology, comparison of Spanish and English sounds, historical aspects, regional accents and sociolinguistic variation. Conducted in Spanish.		
406	SPANISH LINGUISTICS: SYNTAX	4 credits
Prerequisite: 401, 402, and 403 or permission of instructor. Descriptive study of Spanish syntax; introduction to theories of grammar; overview of Spanish semantics and pragmatics. Conducted in Spanish.		
407	SURVEY OF HISPANIC LIT: SPAIN	4 credits
Prerequisites: 340 and two of the group 401, 402, 403 or permission of instructor. Study of the most representative works and literary movements in Spain from the Middle Ages to the present. Conducted in Spanish.		
408	SURVEY OF HISPANIC LIT: SP-AM	4 credits
Prerequisites: 340 and two of the group 401, 402, 403 or permission of instructor. Study of the most representative works and literary movements in Spanish-America from the Discovery to the present. Conducted in Spanish.		
409	CULTURAL MANIF MED & REN SPAIN	4 credits
Prerequisite: 407 or 408 or permission of instructor. Comparative study of representative artistic and literary works of the Medieval and Renaissance periods. Conducted in Spanish.		
410	SPANISH APPLIED LINGUISTICS	4 credits
Prerequisites: 401, 402, and 403 or permission of instructor. This course discusses current theories of second language acquisition and their implications for the learning of problematic Spanish structures.		

411	SPAIN DURING THE BAROQUE PRD	4 credits
Prerequisite: 407 or 408 or permission of instructor. A comparative study of the different cultural manifestations during the 17th century in Spain. Conducted in Spanish.		
412	CERVANTES: DON QUIJOTE	4 credits
Prerequisite: 407 or 408 or permission of instructor. Reading and analysis of Don Quijote as the first modern novel in the historical context of Renaissance and Baroque esthetics. Conducted in Spanish.		
413	DON JUAN MYTH IN SPAN CULTURE	4 credits
Prerequisite: 407 or 408 or permission of instructor. Study of the evolution of the Don Juan myth from its origins to its latest versions in the 20th century.		
414	CULT POL IN THE RIVER PLATE	4 credits
Prerequisite: 407 or 408 or permission of instructor. This course will examine the military dictatorships of the seventies and eighties in Argentina and Uruguay by looking at how these regimes affected culture.		
416	REPRESENTING RLTY 19TH CENT SP	4 credits
Prerequisite: 407 or 408 or permission of instructor. A comparative study of the major literary and artistic movements in Spain from Realism to Modernism. Conducted in Spanish.		
417	SP/SPAN AMER STU ABROAD EXP	3-6 credits
Prerequisite: Permission of Spanish Section Chair. Credit for student's course work at an accredited university in Spain or Latin America.		
418	20TH CENT SP: AV-GAR LIT & ART	4 credits
Prerequisite: 407 or 408 or permission of instructor. A comparative study of the major literary and artistic movements in Spain which illustrate the primary cultural changes of the century. Conducted in Spanish		
419	SPANISH CIVIL WAR&CULT IMPACT	4 credits
Prerequisite: 407 or 408 or permission of instructor. Study the impact of the Civil War on Spanish culture.		
422	ST: SPEC LANG SKL, CULT, LIT	1-4 credits
Prerequisite: 407 or 408 or permission of instructor. (May be repeated) Development of specialized language skills or reading of significant works of literature or culture not studied in other courses.		
425	20TH CENTURY SPANISH-AM NOVEL	4 credits
Prerequisite: 407 or 408 or permission of instructor. Reading and discussion of representative contemporary Latin American novels. Conducted in Spanish.		
427	LATINO CULTURES IN THE USA	4 credits
Prerequisite: 407 or 408 or permission of instructor. Inquiry into the Latino experience of displacement and marginality through the analysis of cultural manifestations in the U.S.A. Conducted in Spanish.		

430	WOMEN IN 20TH CENTURY HISP LIT	4 credits
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Prerequisite: 407 or 408 or permission of instructor. Reading and analysis of selected works from the 20th Century that depict women in Hispanic countries. Methodologies of feminist criticism will be studied. Conducted in Spanish.

431	HISPANIC CULTURE: SPAIN	4 credits
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Prerequisite: Two of the group 401, 402, 403 or permission of instructor. Study of society, customs, history, art, music, etc. of Spain, from a Hispanic perspective. Conducted in Spanish.

432	HISPANIC CULTURE: SPANISH AMER	4 credits
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Prerequisite: Two of the group 401, 402, 403 or permission of instructor. Overview and historical survey of Spanish American civilization and culture. Taken as 532, does not count toward the M.A. in Spanish. Conducted in Spanish.

497	INDIVIDUAL READING IN SPANISH	1-3 credits
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Prerequisite: 407 or 408 and departmental permission.

Course Details (3600)

101	INTRODUCTION TO PHILOSOPHY	3 credits
Introduction to philosophic problems and attitudes through acquaintance with thoughts on some leading thinkers of Western tradition.		
120	INTRODUCTION TO ETHICS	3 credits
Introduction to problems of moral conduct through readings from the tradition and class discussions; nature of "good," "right," "ought" and "freedom."		
125	THEORY & EVIDENCE	3 credits
An investigation of the concept of evidence and the criteria for the evaluation of theories in various areas of study including the natural sciences, the social sciences and philosophy. The role of scientific information in the formation and justification of value judgments.		
170	INTRODUCTION TO LOGIC	3 credits
Introduction to logic and critical thinking. Includes such topics as meaning, informal fallacies, propositional logic, predicate and syllogistic logic and nature of induction.		
211	HISTORY OF ANCIENT PHILOSOPHY	3 credits
History and development of ancient Greek philosophy including Presocratics, Socrates, Plato, Aristotle, and Hellenistic philosophers. Readings of primary sources in translation.		
312	HISTORY OF MEDIEVAL PHILOSOPHY	3 credits
History of Western philosophy from end of Roman Empire to Renaissance. Major philosophers studied include St. Augustine, St. Anselm, Peter Abelard, St. Thomas Aquinas, Duns Scotus and William of Ockham. Readings from primary sources.		
313	HISTORY OF MODERN PHILOSOPHY	3 credits
Analysis of major philosophical issues of 17th and 18th Centuries from Descartes through Kant. Readings of primary sources in translation.		
323	ADVANCED TOPICS IN ETHICS	3 credits
(May be repeated with change of topic for a total of nine credits). An examination of selected topics in applied ethics and ethical theory, such as the ethics of cloning, evolutionary ethics, history of ethics and ethical issues from the Human Genome Project. Specific topics will be announced in the course schedule.		
324	SOCIAL & POLITICAL PHILOSOPHY	3 credits

		An examination of the normative justification of social and political institutions and practices. Analysis of concepts such as rights, justice, equality, and political obligation from historical as well as contemporary points of view. Application to particular social issues covered.
327	LAW AND MORALITY	3 credits
		Nature of law examined from the perspective of the law's alleged obligation to be ethical and promote justice.
329	PHILOSOPHIES OF INTERNATNL LAW	3 credits
		Inquiry into the theories of utility of international law and the philosophical controversies surround them, e.g., international legal norms vs. international relations.
331	PHILOSOPHY OF RELIGION	3 credits
		Discussion and analysis of problems of theology, nature of religious experience, God's nature, existence, immortality, sin, faith, reason, holy revelation, and redemption.
333	PHILOSOPHY OF SCI & RELIGION	3 credits
		Survey of conflict, independence, and integration models of science and religion. Topics include: origin and nature of the universe, life, mind, value, meaning, science, religion.
340	EASTERN PHILOSOPHY	3 credits
		Examination and evaluation of philosophical traditions from India, China and Japan, including Hinduism, Buddhism, Taoism and Confucianism.
350	PHILOSOPHY OF ART	3 credits
		An examination of theories of the nature of art and the grounds of aesthetic evaluation. Analysis of such concepts as representation, form, content, expression, institution, convention, meaning and truth as they apply in the context of the arts.
361	BIOMEDICAL ETHICS	3 credits
		The identification, analysis and evaluation of ethical issues arising most critically in the biomedical setting, e.g., abortion, termination of treatment, definition of death, IVF, AIDS.
362	BUSINESS ETHICS	3 credits
		Basic moral theories, moral principles, and the decision- making process applied to issues in business.
363	POLICE ETHICS	3 credits
		Basic moral concepts and their application to the criminal justice system. Concerned with such issues as punishment, the use of force, and conflict resolution.
364	COMPUTER ETHICS	3 credits
		A critical examination of ethical issues arising in connection with computers and information technology, e.g., computer hacking, electronic privacy, and the regulation of Internet content.

365	ENVIRONMENTAL ETHICS	3 credits
Examination of the moral relationships among human beings, other species, and their shared environment. Ethical aspects of agriculture, global warming, extinction, and wilderness.		
371	PHILOSOPHY OF MIND	3 credits
Nature of mind and the relationship between mind and body. Specific topics such as the limits of human reason, personal identity, the role of human thought in action and whether machines can think are also considered.		
392	INTERNSHIP IN PHILOSOPHY	1-3 credits
Prerequisite: 2.7 GPA and permission of instructor. Placement in appropriate public or private sector organization. Written assignments required. May repeat for maximum 6 credits.		
411	PLATO	3 credits
Prerequisite: 211 with a grade of C- or better, or permission of instructor. Detailed study of the origin and development of Plato's theory of forms and the related theories of knowledge, ethics and politics.		
414	AQUINAS	3 credits
Prerequisite: one course in philosophy with a grade of "C" or higher, or permission of instructor. An in depth examination of the philosophy of St. Thomas Aquinas covering his contributions in metaphysics, epistemology, ethics, political theory, and philosophical theology.		
415	AUGUSTINE	3 credits
Prerequisite: One course in philosophy with a grade of C or higher, or permission of instructor. An in depth examination of the philosophy of St. Augustine covering his contributions in metaphysics, epistemology, ethics, political theory, and philosophical theology.		
418	20TH CENT. ANALYTIC PHILOSOPHY	3 credits
Prerequisite: one course in philosophy with a grade of C or higher, or permission of instructor. Study of ideal and ordinary language movements in 20th century British and American philosophy. Deals with such figures as Russell, Carnap, Ayer, Moore, Wittgenstein, Ryle and Austen.		
421	PHILOSOPHY OF LAW	3 credits
Prerequisite: one course in philosophy with a grade of C or higher, or permission of instructor. Identification and critical evaluation of classic and contemporary theories and assumptions of law, including legal reasoning, justice, natural law, punishment, etc.		
424	EXISTENTIALISM	3 credits
Prerequisite: one course in philosophy with a grade of C or higher, or permission of instructor. In-depth inquiry into the thought of Kierkegaard, Jaspers, Heidegger, Sartre, Tillich and other existentialists with their concern for the human condition.		
426	PHENOMENOLOGY	3 credits

Prerequisite: one course in philosophy with a grade of C or higher, or permission of instructor. Inquiry into methodology of Husserl and Heidegger and their influence upon Western European and American thought.		
432	ARISTOTLE	3 credits
Prerequisites: 211 with a grade of C or higher, or permission of instructor. Detailed study of Aristotle's metaphysics, philosophy of nature, philosophy of mankind and ethics.		
434	KANT	3 credits
Prerequisite: 313 with a grade of C or higher, or permission of instructor. Study of Kantian system of thought and its relation to history of philosophy. Includes thorough investigation of one or more of Kant's philosophic works.		
455	PHILOSOPHY OF FEMINISM	3 credits
Prerequisite: One course in philosophy with a grade of C- or better, or permission of instructor. Introduction to feminist critiques of, and alternatives to, traditional western philosophy, including topics in ethics, metaphysics, epistemology, and religion.		
461	NEUROETHICS	3 credits
Prerequisites: 120 or 361 with a grade of C or higher, or permission of instructor. Discussion and evaluation of contemporary theories of moral agency arising from developments in neuroscience.		
462	THEORY OF KNOWLEDGE	3 credits
Prerequisite: One course in philosophy with a grade of C or higher, or permission of instructor. Examination of nature of knowledge; theories of perception, conception and truth, problem of induction and relation of language to knowledge.		
464	PHILOSOPHY OF SCIENCE	3 credits
Prerequisite: One course in philosophy with a grade of C or higher, or permission of instructor. Nature of scientific inquiry, types of explanation, laws and causality, theoretical concepts and reality. Also considers critics of hypothetical-deductive view of science, e.g., Hanson and Kuhn.		
471	METAPHYSICS	3 credits
Prerequisite: One course in philosophy with a grade of C or higher, or permission of instructor. Theories about ultimate nature and ultimate explanation of reality. Uses readings from classical and contemporary sources.		
480	SEM: PHILOSOPHY	3 credits
(May be repeated, for additional credit, with change of topic). Prerequisite: one course in philosophy with a grade of C or higher, or permission of instructor. Varying philosophical topics not covered in regular course offerings.		
481	PHILOSOPHY OF LANGUAGE	3 credits

Prerequisite: One course in philosophy with a grade of C or higher, or permission of instructor. Contemporary philosophies about nature of language and its relation to reality and human thinking. Includes discussion of views of linguists such as Chomsky.

490	SR HONORS PROJCT IN PHILOSOPHY	3 credits
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Prerequisite: Senior standing in Honors Program or senior honors standing as Philosophy major, and permission of Philosophy Department Honors Preceptor. Research leading to completion of senior honors thesis involving original work under faculty supervision.

497	IND ST: PHILOSOPHY	1-3 credits
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(May be repeated for a total of six credits) Prerequisites: completion of required courses of philosophy major or permission of instructor and department head. Directed independent study of philosopher, philosophy or philosophical problem under guidance of selected faculty member. Subject matter determined by selected faculty member in consultation with student. Graduate credit requires significant additional work which may include additional research paper.

Course Details (3650)

130	DESCRIPTIVE ASTRONOMY	4 credits
Qualitative introduction to astronomy, intended primarily as a first science course for non-science majors. Includes laboratory and observational activities.		
133	MUSIC, SOUND & PHYSICS	4 credits
Qualitative introduction to the physics of sound, its properties, perception and reproduction, including acoustical principles of musical instruments. Laboratory and observational activities included.		
137	LIGHT	4 credits
Introductory, qualitative course dealing with the nature of light and the interaction of light with various materials to produce common visual effects. Laboratory activities provide experience in scientific investigation.		
261	PHYSICS FOR LIFE SCIENCES I	4 credits
Prerequisites: high school algebra, trigonometry or 3450:149 as corequisite or permission. Introductory course for professional work in biology and health professions and services. Emphasizes life science applications. Mechanics: laws of motion, force, torque, work, energy, power; properties of matter: gases, liquids, solids, fluid mechanics. Includes laboratory activities.		
262	PHYSICS FOR LIFE SCIENCES II	4 credits
Prerequisite: 261. Laws of thermodynamics, kinetic theory. Wave phenomena: sound, light, optics; electricity and magnetism; atomic and nuclear physics; radioactivity. Includes laboratory activities.		
267	LIFE SCIENCE PHYSICS COMP I	1 credits
Corequisites: 261 (with 267); 262 (with 268). Optional companion courses to 261,2 provides additional computational experience in applications of physics to life sciences, emphasizing use of algebra and trigonometry. Particularly recommended for student with modest mathematical preparation.		
268	LIFE SCIENCE PHYSICS COMP II	1 credits
Corequisites: 261 (with 267); 262 (with 268). Optional companion courses to 261,2 provides additional computational experience in applications of physics to life sciences, emphasizing use of algebra and trigonometry. Particularly recommended for student with modest mathematical preparation.		
291	ELEMENTARY CLASSICAL PHYSICS I	4 credits
Prerequisite: Completion of 3450:221 with a passing grade. Introductory physics for students of science and engineering. Classical kinematics and dynamics as related to contemporary physics. Oscillations, thermodynamics. Vectors and some calculus introduced as needed. Includes laboratory activities.		

292	ELEMENTARY CLASSICAL PHYS II	4 credits
Prerequisite: Completion of 291 with a passing grade. Fluid mechanics, mechanical and electromagnetic waves and wave phenomena, basic laws of electromagnetism, interference and diffraction, coherence, geometrical and physical optics. Includes laboratory activities.		
293	PHYSICS COMPUTATIONS I	1 credits
Corequisite: 291 (with 293); 292 (with 294). Optional companion courses to 291,2 provides experience in problem solving, and elaborates application of calculus to simple physical phenomena. Particularly recommended for a freshman and for student with modest preparation in mathematics or physical sciences.		
294	PHYSICS COMPUTATIONS II	1 credits
Corequisite: 291 (with 293); 292 (with 294). Optional companion courses to 291,2 provides experience in problem solving, and elaborates application of calculus to simple physical phenomena. Particularly recommended for a freshman and for student with modest preparation in mathematics or physical sciences.		
301	ELEMENTARY MODERN PHYSICS	3 credits
Prerequisite: 292 or permission of instructor. Special relativity, introduction to quantum physics, hydrogen atom and complex atoms, atomic spectra, topics in nuclear and solid-state physics.		
322	INTERMEDIATE LABORATORY I	3 credits
Prerequisite: 262 or 292. Laboratory course stressing measurement techniques with contemporary laboratory apparatus. Experiment design, instrument calibration and reporting emphasized. Modern physics experiments and measurement of fundamental natural constants.		
323	INTERMEDIATE LABORATORY II	3 credits
Prerequisite: 262 or 292. Laboratory course stressing measurement techniques with contemporary laboratory apparatus. Experiment design, instrument calibration and reporting emphasized. Modern physics experiments and measurement of fundamental natural constants.		
340	THERMAL PHYSICS	3 credits
Prerequisite: 262 or 292. Basic principles of thermal and statistical physics. Ensembles, laws of thermodynamics, equilibrium, irreversibility, equipartition theorem, canonical distribution, Maxwell distribution, phase changes, cyclic processes, transport processes.		
350	MODELING & SIMULATION	4 credits
Prerequisites: 292, or 262; one elementary course in Computer Science such as 3460:208 or 209 or permission of instructor. Interdisciplinary course stressing modeling of natural phenomena using fundamental principles and their simulation. Topics may include growth phenomena, fault propagation, kinetics, chemical reactions, wave phenomena.		
399	UNDERGRADUATE RESEARCH	1-6 credits

(May be repeated) Prerequisite: permission of instructor. Participation in current research project in department under supervision of faculty member.

401 EVERYDAY PHYSICS 4 credits

Prerequisite: permission of instructor. College-level physics content for future teachers. Inquiry, discovery, activities, discussion, and experiential learning take place in a laboratory/embedded-lecture environment.

406 OPTICS 3 credits

Prerequisites: 291, 350 and 3450:335. Propagation, reflection and refraction of electromagnetic waves, superposition, polarization, interference and interferometry, Fresnel and Fraunhofer diffraction, Fourier optics, coherence theory and quantum optics.

431 MECHANICS I 3 credits

Prerequisites: 291, 350 and 3450:335. Mechanics at intermediate level. Newtonian mechanics, motion of a particle in one dimension, central field problem, system of particles, conservation laws, rigid bodies, and gravitation.

432 MECHANICS II 3 credits

Prerequisite: 431. Advanced mechanics at the senior or beginning graduate level, moving coordinate systems, mechanics of continuous media, Lagrange's equations, tensor algebra and stress analysis, rotation of rigid bodies, vibration theory.

436 ELECTROMAGNETISM I 3 credits

Prerequisites: 291, 350, 3450:335 or permission of instructor. Electricity and magnetism at intermediate level. Electrostatics and magnetostatics, electric field, scalar potential, dielectrics, Laplace's and Poisson's equations, currents, magnetic field, vector potential, magnetic materials, inductance.

437 ELECTROMAGNETISM II 3 credits

Prerequisite: 436. Special relativity, four vectors, Maxwell's equations in covariant form; propagation, reflection and refraction of electromagnetic waves; multipole radiation.

441 QUANTUM PHYSICS I 3 credits

Prerequisites: 301, 350 and 3450:335. Introduction to quantum theory, Schrödinger equation, observables, angular momentum, perturbation theory, variational principle, bound states, scattering theory, radiative interactions, spin and the Pauli Principle.

442 QUANTUM PHYSICS II 3 credits

Prerequisite: 441. Applications of quantum mechanics to atomic, nuclear and solid state physics. Tunneling and alpha decay, periodic potential, hydrogen and helium atoms, interatomic forces, quantum statistics.

451 ADVANCED LABORATORY I 3 credits

Prerequisite: 323 or permission of instructor. Experimental techniques, applicable to research-type projects in contemporary physics. FT-IR spectroscopy, optical spectroscopy, lasers and thin-film growth and characterization.

452 ADVANCED LABORATORY II 3 credits

Prerequisite: 323 or permission of instructor. Experimental projects applicable to contemporary physics. Diode and dye lasers, NMR, SPM, chaos, electron tunneling and fiber optics.

470 INTRO TO SOLID-STATE PHYSICS 3 credits

Prerequisite: 441 or permission of instructor. Account of basic physical processes occurring in solids, with emphasis on fundamental relation between these processes and periodicity of crystalline lattice.

481 METHODS OF MATH PHYSICS I 3 credits

Prerequisites: 292, 350, 3450:335 and senior or graduate standing in a physical science or engineering. Vectors, generalized coordinates, tensors, calculus of variations, vector spaces, linear transformations, matrices, eigenvalues, Hilbert space, boundary value problems, transcendental functions, complex variables, analytic functions, Green's functions, integral equations.

482 METHODS OF MATH PHYSICS II 3 credits

Prerequisites: 292, 3450:335 and senior or graduate standing in a physical science or engineering. Vectors, generalized coordinates, tensors, calculus of variations, vector spaces, linear transformations, matrices, eigenvalues, Hilbert space, boundary value problems, transcendental functions, complex variables, analytic functions, Green's functions, integral equations.

488 SEL T: PHYSICS 1-4 credits

(May be repeated) Prerequisite: permission. Consideration of selected topics, procedures, techniques, materials or apparatus of current interest in physics.

490 W: PHYSICS 1-4 credits

(May be repeated) Group studies of special topics in physics. May not be used to meet undergraduate or graduate major requirements in physics. May be used for elective credit only.

497 INDP STUDY: PHYSICS 1-4 credits

(May be repeated) Prerequisite: permission. Further investigations of various selected topics in physics, under guidance of faculty member.

498 PHYSICS COLLOQUIUM 1 credits

Lectures on current research topics in physics by invited speakers. May be repeated but only one credit counts toward the M.S. Degree. Offered on a credit/noncredit basis only.

Course Details (3700)

100	GOVERNMENT & POLITICS IN US	4 credits
Examination of American political system with emphasis on fundamental principles, ideas, institutions and processes of modern government. Lecture and discussion sections (day classes only).		
150	WORLD POLITICS & GOVERNMENT	3 credits
Introduction to international politics and an examination of the governments and foreign policies of selected states from a comparative perspective.		
201	INTRO TO POLITICAL RESEARCH	3 credits
Introduction to the research process in political science through an introduction to the logic of social science inquiry and contemporary techniques of analysis.		
210	STATE & LOCAL GOVT & POLITICS	3 credits
Examination of institutions, processes and intergovernmental relations at state and local levels.		
300	COMPARATIVE POLITICS	4 credits
Introduction to comparative political analysis; description of political systems of Great Britain, France, Germany and Soviet Union; contrast between democracy and totalitarianism.		
302	AMERICAN POLITICAL IDEAS	3 credits
Study of major thinkers and writers of American political thought.		
303	INTRO TO POLITICAL THOUGHT	3 credits
Survey of major ideas and concepts of Western political theory from pre-Socrates through period of Enlightenment.		
304	MODERN POLITICAL THOUGHT	3 credits
Examination of central concepts of political thought from 19th Century to present. Modern liberalism, communism, fascism and totalitarianism emphasized.		
310	INTERNATIONAL POLITICS & INS	3 credits
Relations among nations examined in political context.		
311	DEVELOPING STATES IN WORLD POL	3 credits
Examines how developing states are conditioned by the global system and how they attempt to modify it.		

321	EUROPEAN POLITICS	3 credits
Description and analysis of government and politics of France, Germany, Italy, the United Kingdom, and Russia, with appropriate references to the European Union.		
326	POLITICS OF DEVELOPING NATIONS	3 credits
General introduction to concepts and theories of political development and political institutions, elite-recruitment and political processes of selected emerging nations.		
328	AMERICAN FOREIGN POLICY PROC	3 credits
Examination of American foreign policy-making process; public opinion and other limitations on policy; specific contemporary problems in selected foreign policy areas.		
334	LAW, MEDIATION, AND VIOLENCE	3 credits
A critical analysis of the practical challenges central to learning to better prevent, resolve, or reduce the harms associated with conflict.		
335	LAW & SOCIETY	3 credits
This course will examine how law constructs and constrains political conflict, and how legal institutions mediate, reinforce, and challenge existing power relationships.		
336	HOMELAND SECURITY POLICY & PRC	3 credits
The course will focus on the topic of homeland security, an area that has received a great deal of attention following the tragic events of September 11, 2001.		
337	TERRORISM: PRPTS, PLTCS & RSPN	3 credits
Survey of terrorist organizations, political implications of terrorism, and governmental response to terrorism.		
339	TERRORISM AND THE CONSTITUTION	3 credits
Primary goals include learning about the balance courts try to strike in safeguarding public safety and respect for personal freedom in a constitutional republic.		
341	THE AMERICAN CONGRESS	3 credits
Examination of structure and function of Congress, with comparative materials on legislative process on all levels. Presidential and congressional conflict examined.		
345	WORLD POLITICS IN FILM	3 credits
This course examines the political meaning and content of films. Themes investigated include war, the nuclear age and its consequences, postindustrial society, the future, and unemployment.		
346	AMERICAN POLITICS IN FILM	3 credits

		Examines the portrayal and representation of American politics through cinema. Emphasis on the positive and negative roles that movies play in educating the public.
350	THE AMERICAN PRESIDENCY	3 credits
		The presidency as focal point of politics, policy and leadership in American political system.
351	INSIDE THE WHITE HOUSE	3 credits
		The course looks behind the curtain at the inner-workings of the White House. Topics include: physical structure of the White House, travel, protection, and staff.
352	WEAPONS OF MASS DESTRUCTION	3 credits
		An exploration of the various weapons of mass destruction available to terrorists and other potential enemies with an emphasis on the challenge America faces in responding to such threats.
353	FUTURE INTERNATIONAL THREATS	3 credits
		A study of future threats through the use of scenario construction and future projections.
360	THE JUDICIAL PROCESS	3 credits
		Role of police, lawyers, courts and judges in context of American political process. Structure and process of judicial policy making and limitations on judicial power.
361	POLITICS OF THE CRIM JUST SYS	3 credits
		Examines the impact of the political process and political institutions on criminal law and policy.
363	CRIME, PUN, POL: A COMP PERSP	3 credits
		Comparative study of the structures, practices, power relationships, and politics in various criminal justice systems.
370	PUBLIC ADMN: CONCEPTS & PRACTS	4 credits
		Examines current administrative theories and their application in public bureaucracies. Emphasis is placed on practices to improve the quality of public sector administration.
375	WOMEN IN POLITICS	3 credits
		Course examines the past, present, and future role of women in politics.
381	STATE POLITICS	3 credits
		Analysis of the state political process in terms of its capacity to deal with a wide range of socioeconomic problems. Special emphasis on legislators, administrators, parties and interest groups.
391	HONORS IN POLITICAL SCIENCE	3 credits
		Prerequisites: at least 17 credits and a 3.25 average in political science and permission of adviser.

392	SEL T: POLITICAL SCIENCE	1-3 credits
(May be repeated, but no more than three credits can be applied to major in political science) Topics of substantial current importance, specialized topics within political science or experimental courses.		
395	INTERN: GOVERNMENT & POLITICS	2-9 credits
(May be taken twice for a total of nine hours. No more than four credits may be applied toward major in political science.) Prerequisite: Three courses in political science at The University of Akron, 2.20 average in political science, and permission of instructor. Supervised individual placement with political office holders, party groups, governmental agencies, law firms and other organizations providing professional-level work.		
397	INDP STUDY: POLITICAL SCIENCE	1-4 credits
(May be repeated for a total of four credits) Prerequisites: senior standing, 3.00 grade-point average and permission of adviser.		
400	POLITICAL EXTREMISM & VIOLENCE	3 credits
This course examines the causes and consequences of political extremism and political violence in democracies and failed democracies.		
402	POLITICS AND THE MEDIA	3 credits
Examination of relationships between the press, the news media and political decision makers.		
403	MEDIA, CRIME & PUBLIC OPINION	3 credits
Examines the social construction of crime in mass media and how it impacts public, including fear of crime, beliefs about crime causation, and crime policy.		
405	POLITICS IN THE MIDDLE EAST	3 credits
The rise of the state system in the Middle East after World War I; an analysis of the socio-cultural, ideological forces influencing the political behavior of the people of the Middle East. In-depth study of selected political systems.		
410	INTERNATIONAL SECURITY POLICY	3 credits
Prerequisite: At least one of the following: 310, or 3400:461, or permission. Introduction to political uses of military forces. Major focus on methodological, conceptual, and ethical dilemmas confronted in developing and implementing security policy.		
413	GLOBAL PUBLIC HEALTH THREATS	3 credits
An introduction to comparative global biological and public health security policy. Topics include: infectious disease outbreaks, bioterrorism, and potential "nano-terrorism."		
414	WEALTH AND POWER AMONG NATIONS	3 credits

Prerequisite: 310 or permission of instructor. Studies relationship between politics and economy; mesh theoretical perspectives with exploration of key empirical issues. Topics: trade, relations, unions, finance, development, aid, sanctions.

417 ENVIRON SECUR: POLICY & POLITC 3 credits

Prerequisite: 3700:100 or permission of the instructor. Examines the politics, economics, science, security, and policy changes behind global warming/climate change, peak oil (looming energy shortages), and related governmental and resource security.

422 UNDESTND RACIAL & GENDER CNFLCT 3 credits

This is the core course the Certificates in Racial and Gender Conflict, providing students with an opportunity to intensively examine racial and gender conflict.

437 GOVERNMENT VS ORGANIZED CRIME 3 credits

The course gives a history of organized crime and the government's responses to fight it. Newly emerging international crime groups are also discussed.

440 SURVEY RESEARCH METHODS 3 credits

Prerequisites: 100 or permission. Study of survey research methods as applied to the analysis of public opinion, political behavior, and public policy formation.

441 THE POLICY PROCESS 3 credits

Prerequisites: eight credits in political science. Intensive study of policy-making process, emphasizing roles of various participants in executive and legislative branches as well as private individuals and groups.

442 METHODS OF POLICY ANALYSIS 3 credits

Prerequisite: 201. Examines variety of methods available for analyzing public policies. Techniques of cost benefit analysis, evaluation research quasi-experimentation are covered as well as consideration of ethical questions in policy analysis, the practical problems facing policy analysts.

443 POLITICAL SCANDALS & CORRUPT 3 credits

This course will provide information on major political scandals, including media coverage, public opinion, the role of special prosecutors, and the impacts of scandals.

445 AL QAEDA 3 credits

This course explores the causes and consequences of Al Qaeda's terrorism. Students will weigh different explanations for why individuals join and participate in terrorist groups.

446 INTELLIGENCE AND COUNTERTERROR 3 credits

The aim of this class is to familiarize students with intelligence and counterterrorism organizations, politics, mandates, and missions in the United States and abroad.

450 ADM PRISONS,PROBATION & PAROLE 3 credits

Prerequisite: 100. Analysis of the administrative, electoral, and community conflicts central to understanding, resolving, and preventing these conflicts in a correctional environment.		
461	THE SUPREME COURT & CONST LAW	3 credits
Prerequisite: 100 or permission. Interpretation of the Constitution by the Supreme Court with emphasis on federal judicial, legislative and executive power; separation of powers; and federalism.		
462	THE SUPREME COURT & CIVIL LIB	3 credits
Prerequisite: 100 or permission. Interpretation of the Constitution by the Supreme Court with emphasis on freedom of speech and press, freedom of religion, criminal rights and right to privacy.		
463	HUMAN RIGHTS IN WORLD POLITICS	3 credits
An introduction to human rights from a comparative perspective; topics include: definition and development of human rights with attention paid to government interaction and wartime.		
470	CAMPAIGN MANAGEMENT I	3 credits
Prerequisite: permission of instructor. Reading, research and practice in campaign management decision making.		
471	CAMPAIGN MANAGEMENT II	3 credits
Prerequisite: 470. The second course in campaign management. The focus is on timing, coalition building, candidate positioning, event planning, internal organization, and other elements of campaign strategy.		
472	CAMPAIGN FINANCE	3 credits
Prerequisite: permission of instructor. Reading and research in financial decision making in political campaigns.		
473	VOTER CONTACT & ELECTIONS	3 credits
Prerequisite: permission of instructor. Theoretical and practical approaches to communication in all types of campaigns.		
474	POLITICAL OPIN/BEHAV/ELEC POL	3 credits
Prerequisite: 100 or 201 or permission. Advanced analysis of psychological, cultural, and group processes of opinion formation and change. Attention given to the effect of opinion change on electoral outcomes.		
475	AMERICAN INTEREST GROUPS	3 credits
Prerequisite: six credits of political science or permission. Reading and research on the development, structure and function of interest groups in the United States.		
476	AMERICAN POLITICAL PARTIES	3 credits
Prerequisites: six credits of political science or permission. Reading and research on the development, structure and function of parties in the United States.		

477	LOBBYING	3 credits
Examines the lobbying profession in the political process. Topics include theories of lobbying, tools of lobbying, the lobbying process, and types of lobbying.		
480	POLICY PROB: POLITICAL SCIENCE	3 credits
(May be repeated for a total of six credits) Intensive study of selected problems in public policy.		
481	THE CHALLENGES OF POLICE WORK	3 credits
Prerequisite: 100. Analysis of the neighborhood, bureaucratic, electoral, and operational conflicts central to police work, with a focus on efforts and obstacles to improving police work.		
482	CRIMINAL JUSTICE TOP: CUR ISSU	3 credits
(May be repeated for a maximum of six credits) Prerequisite: 100. Critical analysis of current issues relating to political science and criminal justice. No more than three credits can be applied to the major.		
483	CONSTITUTNL PROBS IN CRIM JUST	3 credits
Prerequisite: 100. Analyzes Supreme Court policy-making regarding problems of criminal justice, including search and seizure, self-incrimination, right to counsel, jury selection, and post-appeal prisoner rights.		
492	SELECTED TOPICS IN POL SCI	3 credits
Topics of substantial current importance or specialized topics within political science.		
497	SR HONORS PROJ: POLITICAL SCI	1-3 credits
(May be repeated for a total of six credits) Prerequisites: senior standing in Honors Program and permission. Open only to a political science major in Honors Program. Independent study leading to completion of senior honors thesis or other original work.		

Course Details (3750)

100	INTRODUCTION TO PSYCHOLOGY	3 credits
Introduction to scientific study of behavior, survey of physiological basis of behavior, sensation and perception, development, learning and cognition, personality, social interaction and other selected topics.		
105	PROFESSIONAL & CAR ISS IN PSYC	1 credits
Corequisite: 100. An overview of the field of psychology including educational requirements, career opportunities and professional issues for students considering a psychology major.		
110	QUANTITATIVE METHODS IN PSYCH	4 credits
Prerequisite or corequisite: 100. Presentation of data, descriptive statistics, correlation, hypothesis testing and introduction to statistical methodologies in psychology, including computer applications.		
220	INTRO TO EXPERIMENTAL PSYCH	4 credits
Prerequisites: 100 and 110. Lectures and laboratory experience in the scientific bases of psychology such as experimental design, methods and apparatus, collection and analysis of data and interpretation of results.		
230	DEVELOPMENTAL PSYCHOLOGY	4 credits
Prerequisite: 100. Determinants and nature of behavioral change from conception to death.		
320	BIOPSYCHOLOGY	4 credits
Prerequisite: 100. Relationship between behavior and its biological/physiological foundations including brain structure and function, sensation, behavior genetics, learning and memory, and other topics.		
335	DYNAMICS OF PERSONALITY	4 credits
Prerequisite: 100. An overview of theory and research involving the development, maintenance and assessment of personality and individual differences.		
340	SOCIAL PSYCHOLOGY	4 credits
Prerequisite: 100. The examination of an individual's response to social environment and social interaction processes. Social perception, attitude formation and change, affiliation and attraction, altruism, group processes and nonverbal behavior.		
345	COGNITIVE PROCESSES	4 credits
Prerequisite: 100. Survey of the basic phenomena, concepts and theories in the areas of human perception, learning, memory and cognition.		

380	INDUSTRIAL/ORGANIZATIONAL PSYC	4 credits
Prerequisite: 100. Survey of the application of psychology to the workplace including an emphasis on organizational (e.g., motivation) and personnel issues (e.g., selection).		
400	PERSONALITY	4 credits
Prerequisites: 100 and 335. Consideration of current conceptualizations of the normal personality with emphasis on methods of measurement, experimental findings and research techniques.		
405	SENSATION & PERCEPTION	4 credits
Prerequisite: 100. Reviews the basic psychological and neural components of sensation and perception involving visual, auditory, cutaneous, and chemical sensory systems.		
410	PSYCHOLOGICAL TESTS & MEASURES	4 credits
Prerequisites: 100, 110. Consideration of the nature, construction and use of tests and measurements in industry, government and education. Includes aptitude and achievement tests, rating scales, attitude and opinion analysis.		
415	COGNITIVE NEUROSCIENCE	4 credits
Prerequisite: 100. A review of neuroimaging studies addressing contemporary themes in human behavior, including consciousness, learning and memory, neuropathology, and emotion.		
420	ABNORMAL PSYCHOLOGY	4 credits
Prerequisite: 100. Survey of syndromes, etiology, diagnoses and treatments of major psychological conditions ranging from transient maladjustments to psychoses.		
425	PSYCHOLOGY OF HATE	4 credits
Prerequisite: 100. The primary objective of this course is to understand the psychology behind hate. Topics include racism, sexism, heterosexism, religious intolerance, classism and ageism.		
430	PSYCHOLOGICAL DISORDERS: CHILD	4 credits
Prerequisites: 100 and 230. Survey of syndromes, etiologies and treatments of behavioral disorders in children from the standpoint of developmental psychology. Behavioral data and treatment approaches emphasized.		
435	CROSS-CULTURAL PSYCHOLOGY	4 credits
Prerequisites: 100. Influence of culture and ethnicity upon development of individual psychological processes including functioning, identity, social motives, sex roles and values.		
440	PERSONNEL PSYCHOLOGY & LAW	4 credits
Prerequisites: 380 or 6500:301. The implications of equal employment law on the practice of personnel psychology.		
441	CLINICAL & COUNSELING PSYCH I	4 credits

Prerequisites: 100 and 335. Overview of the fields of clinical and counseling psychology with a major focus on psychotherapeutic approaches, including cultural considerations, legal/ethical issues, and outcome research.		
442	CLINICAL & COUNSELING PSYCH II	4 credits
Prerequisite: 441. Overview of individual counseling and psychotherapy, group counseling, personality and ability testing, marriage and family counseling, hypnosis, sex therapy, psychopharmacology and related specialties. Specific topics in clinical and counseling practice including professional trends, ethics, various therapeutic and diagnostic procedures, and specialty areas.		
443	HUMAN RESOURCE MANAGEMENT	4 credits
Prerequisites: 100 and 380. The application of psychological theory to the effective management of human resources in an organization, including recruitment, selection, training and retention of personnel.		
444	ORGANIZATIONAL THEORY	4 credits
Prerequisites: 100 and 380. The application of psychological theory to macro-level processes in organizations including leadership, motivation, task performance, organizational theories and development.		
445	PSYCHOLOGY OF SMALL GROUP BEH	4 credits
Prerequisites: 100. Intensive investigation of factors affecting behavior and performance in small groups including effects of personality, social structures, task, situational and social-cognitive variables.		
450	COGNITIVE DEVELOPMENT	4 credits
Prerequisites: 100 and 345. Theory and research on life-span changes in cognitive processes including concept formation/categorization, information processing and Piagetian assessment tasks.		
460	HISTORY OF PSYCHOLOGY	3 credits
Prerequisite: 100. Psychology in pre-scientific period and details of developmental or systematic viewpoints in 19th and 20th Centuries.		
474	PSYCHOLOGY OF WOMEN	4 credits
Prerequisites: 3750:100 or 3001:300. Reviews theory and research in the psychology of women and gender and encourages students to use these in their everyday lives.		
475	PSYCHOLOGY OF ADULTHOOD & AGNG	4 credits
Prerequisites: 100 and 230. Psychological aspects of human development from adolescence to older adulthood including age-related changes in socialization, personality, intelligence, sensation, perception, learning, memory and clinical applications.		
480	ST: PSYCHOLOGY	1-4 credits
(May be repeated to a maximum of 8 credits) Prerequisite: 100 and 64 credits completed. Comprehensive survey of contemporary status of specialized topics and issues in psychology. Emphasis on original source materials, critical analysis and synthesis of empirical and theoretical aspects.		

488	HONORS PROJECT IN PSYCHOLOGY	4 credits
Prerequisites: Psychology major and departmental permission, and 100 and 105 and 110 and 220, and 320 or 335 or 340 or 345. Selection of research topic, review of relevant literature, research design, and proposal.		
489	HONORS PROJECT IN PSYCHOLOGY	4 credits
Prerequisites: Psychology major and departmental permission, and 100 and 105 and 110 and 220, and 320 or 335 or 340 or 345. Data collection, analysis, and preparation of the final research report in journal style.		
495	FIELD EXPERIENCE IN PSYCHOLOGY	1-4 credits
(May be repeated to a maximum of 6 credits). Prerequisites: 100, 105 and 110 and eight additional credits in psychology. On-site supervised individual placements in appropriate settings. The academic component of the experience will be under the supervisor of a selected faculty member.		
497	INDEP RDG/RSRCH: PSYCHOLOGY	1-3 credits
(May be repeated to a maximum of 6 credits). Prerequisites: 3750:100 and 105 and 110 and 220 and four additional credits in psychology. Independent reading and/or research in an area of psychology under the supervision and evaluation of a selected faculty member.		
498	HONORS RESEARCH IN PSYCHOLOGY	1-3 credits
Prerequisites: Psychology major and approval of honors advisor. Individual research with a faculty advisor leading to the completion of a research project satisfying departmental and university requirements.		

Course Details (3850)

100	INTRODUCTION TO SOCIOLOGY	3 credits
Basic terminology, concepts and approaches in sociology, including introduction to analysis of social groups and application of sociological concepts to the understanding of social systems. Required of majors. Lecture/discussion.		
301	METHODS OF SOCIAL RESEARCH I	3 credits
Prerequisites: 3850:100 and Arts & Sciences math requirement. The basis of this course is learning to apply course material to improve thinking, problem solving, and decisions in conducting research design and data gathering techniques. Required of all majors.		
302	METHODS OF SOCIAL RESEARCH II	3 credits
Prerequisites: 3850:100, 3850:301 and Arts & Sciences math requirement. Essential objectives of this course are developing expression skills in writing and learning fundamental principles in statistics. Other key topics include quantitative techniques and application to sociological data. Required of all majors.		
310	SOCIAL PROBLEMS	3 credits
Prerequisite 100 or permission. Study of selected contemporary problems in society; application of sociological theory and research to understand the social construction of and response to these problems.		
315	SOCIOLOGICAL SOCIAL PSYCHOLOGY	3 credits
Prerequisite: 100. The reciprocal influence of individuals and groups. How interpersonal processes produce and affect group structure. How groups affect the development and behavior of the social person.		
320	SOCIAL INEQUALITIES	3 credits
Prerequisite: 100 or permission. This course covers local, regional, national, and global dimensions of social inequalities. Structural and interactionist approaches to relations of power in society frame the course.		
321	POPULATION	3 credits
Prerequisite: 100 or permission. An introduction to world and national population trends, related demographic and social characteristics. Topics include fertility, mortality, morbidity, migration, abortion, birth control, population policy in relation to societal problems. Lecture.		
324	SOCIAL MOVEMENTS	3 credits
Prerequisite: 100 or permission. Social movements as distinguished from other forms of collective behavior; analysis of social situations which produce social movements; focus on development of social movements and their role in social change. Lecture.		

325	SOCIOLOGY OF WOMEN GLOBAL SOC	3 credits
Prerequisites: 100 or permission. Examination of research and theories pertaining to women's status in global society, including economic conditions, the relationship between structure and experience, and global/local linkages.		
330	CRIMINOLOGY	3 credits
Prerequisite: 100 or permission. Major focus on interrelationships and analysis of crimes, criminals, criminal justice systems and society. Lecture.		
336	SOCIOLOGY OF WORK & OCCUPATION	3 credits
Prerequisite: 100 or permission. Survey of theory and empirical research in areas such as the structure of occupations and professions, occupational attainment, work force characteristics, work values and orientations, the nature of work. Lecture.		
340	THE FAMILY	3 credits
Prerequisite: 100 or permission. Analysis of family as a social system; historical, comparative and contemporary sociological approaches examined in relation to family structure and functions. Lecture.		
341	POLITICAL SOCIOLOGY	3 credits
Prerequisite: 100 or permission. Survey of theory and empirical research dealing with relationship between political phenomena and the larger network of social processes in human societies. Lecture.		
342	SOCIOLOGY OF HEALTH & ILLNESS	3 credits
Prerequisite: 100 or permission. General survey of sociological perspectives, concepts and research on health, illness and health-care delivery systems. Lecture.		
343	SOCIOLOGY OF AGING	3 credits
Prerequisite: 100 or permission. Examination of process of aging from perspective of behavioral and sociological aspects. Lecture.		
350	DRUGS IN SOCIETY	3 credits
Prerequisite: 100 or permission.. This course is a survey, from a sociological perspective, of drug abuse, of the relationship between drugs and crime, and of various treatment strategies.		
360	SOCIAL EFFECTS OF CRIME IN THE	3 credits
Prerequisite: 3850:100. Sociological examination of the consequences of images of crime in the media. Focus on issues of stereotypes and discrimination by race, sex and class.		
365	ST: SOCIOLOGY	1-3 credits
(May be repeated) Prerequisite: permission. Special topics of interest to sociology major and non-major not covered in regular course offerings.		
397	SOCIOLOGICAL READINGS & RSRCH	1-3 credits

Prerequisite: permission. Individual study of problem area of specific interest to individual student under guidance of department member. Preparation of a research paper.

410 SOCIAL STRUCTURES & PERSONLTY 3 credits

Prerequisite: 100 or permission. Interrelationships between position in society, personality characteristics. Personality treated as both result and determinant of social structure and process. Lecture.

411 SOCIAL INTERACTION 3 credits

Prerequisite: 100 or permission. Intensive study of advanced theory and research in social psychology, particularly how social interaction and self-conception affect one another. Lecture.

412 SOCIALIZATION: CHILD TO ADULT 3 credits

Prerequisite: 100 or permission. Theoretical and empirical analysis of process by which infant, child, adolescent and adult learn social and cultural requirements necessary to function in new roles, changing roles and society in general.

415 WOMEN IN PRISON 3 credits

Prerequisite: 100 or permission of instructor. In depth examination of women's experiences in prison. Includes processes involved in the movement into prison, experiences while in institutions, and transitioning out of prison.

416 WOMEN AND CRIME 3 credits

Prerequisite: 100 or permission. An overview of women's experiences with crime, including women as offenders, victims, and workers in the criminal justice system.

421 RACE & ETHNIC RELATIONS 3 credits

Prerequisite: 100 or permission. Analysis of structure and dynamics of race and ethnic relations from a variety of perspectives emphasizing both historical and contemporary issues. Lecture.

425 SOCIOLOGY OF URBAN LIFE 3 credits

Prerequisite: 100 or permission. Emergence and development of urban society. Examination of urban social structure from neighborhood to metropolis, the problems and prospects. Emphasis on various life styles of urban subcultures. Lecture/discussion.

428 VICTIM IN SOCIETY 3 credits

Prerequisites: 100 or permission. Study of the nature, causes, and consequences of victimization with special focus on crime victimization.

430 JUVENILE DELINQUENCY 3 credits

Prerequisite: 100 or permission. Analysis of social structure and process from which delinquency develops. Emphasis on current and past research. Lecture/discussion.

431 CORRECTIONS 3 credits

Prerequisites: 330 or 430. Theories, beliefs and practices of community and institutional corrections systems, including past and current social research. Course taken prior to 3 credit hour Field Placement in Corrections (3850:471).		
433	SOCIOLOGY OF DEVIANT BEHAVIOR	3 credits
Prerequisites: 100 and at least six additional credits of sociology courses or permission. Survey of theories of deviant behavior and relevant empirical research. Special emphasis given to interaction processes and social control. Lecture.		
435	SOCIOLOGY OF LOVE	3 credits
Prerequisite: 100 or permission. Study of the relation of love to the social order. Coverage includes diverse types, such as romantic, familial, religious, and altruistic love.		
441	SOCIOLOGY OF LAW	3 credits
Prerequisites: 100 and at least six additional credits of sociology courses or permission. Social origins and consequences of law and legal processes. Emphasis on uses of law, social change and aspects of legal professions. Lecture.		
447	SOCIOLOGY OF SEX AND GENDER	3 credits
Prerequisite: 100 or permission. Review of research and theories of sex and gender. Examination of gender as structure, process and experience in society.		
450	SOCIOLOGY OF MENTAL ILLNESS	3 credits
Prerequisite: 100 or permission. The social history of the mental hospital, theories and epidemiology of mental illness, community-based treatment models, the organization of mental health services, the role of personal social networks and mutual support groups.		
455	FAMILY VIOLENCE	3 credits
Prerequisite: 100. Family violence with a focus on child abuse, courtship violence, spouse/partner abuse, and elder abuse. Theories, methodologies, and strategies to end family violence are explored.		
460	SOCIOLOGICAL THEORY	3 credits
Prerequisite: 100 or permission. An overview and examination of theoretical issues in sociology through the study of both classical and contemporary theoretical work.		
470	RES METH: SOCIAL SCI PROSEM	3 credits
Pre-requisite: Completion of required coursework for the Research Methods Certificate Program or Permission of Instructor. Application of qualitative and/or quantitative research methods and analysis, and preparation of a scholarly research paper for presentation and/or publication. Seminar.		
495	FIELD INTERNSHIP	2-4 credits

Prerequisites: permission of a faculty supervisor and a minimum of 64 hours of undergraduate coursework of which 12 hours must be in sociology. Placement in community organization for supervised experience related to degree requirements. Student must submit an application to the intern coordinator during semester prior to enrollment.

496

SENIOR HONORS PROJECT

1-3 credits

(May be repeated for a total of six credits) Prerequisites: enrollment in Honors College, Senior standing, and major in sociology. Thesis or original creative work appropriate to student's area of interest. Requirements and evaluation of project determined by departmental honors preceptor and student's honors project adviser.

Course Details (7000)

td colspan="3" class="desc"> In addition to an introduction to the history and theory of New Media, students will enhance their creative mind through seminar and simple practices. No prior art or digital media experience is required.

100	INTRO NEW MEDIA: CREATIVE MIND	3 credits
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300	NEW MEDIA II: CREATIVE PRACTIC	3 credits
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Prerequisite or Corequisite: 100. Students practice various New Media technologies. No prior art or digital media experience is required.

301	COOPERATIVE EDUCATION	0 credits
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(May be repeated) For cooperative education students only. Work experience in business, industry, or governmental agency. Comprehensive performance evaluation and written report required.

400	NEW MEDIA III:CREATIVE PROJ	3 credits
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Prerequisite: 300. Students create their original New Media Art projects through research, proposals, productions and a show.

401	HISTORY OF PERF & NEW MEDIA	3 credits
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Prerequisite: 7100:101 or permission. A survey of performance art and "new media," including video art and sound art, this course takes an historical overview of its subjects from the emergence of performance art in the late 19th century (including dance, theater, and music) and video and sound art in the 1960s, through the present moment.

Course Details (7100)

100	SURVEY OF HISTORY OF ART I	3 credits
Introductory survey of world art from prehistory to c. 1250 C.E.		
101	SURVEY OF HISTORY OF ART II	3 credits
Prerequisite: 7100: 100. Introductory survey of world art from 1250 to 1850 C.E.		
102	SURVEY OF HISTORY OF ART III	3 credits
The third component in a 3-part series of introductory art history courses, this class covers the modern era, from Realism, Impressionism, and the Pre-Raphaelites through the present moment.		
103	ARTS ORIENTATION	0 credits
Corequisite: with first 7100 art course. Orientation to the information and strategies necessary to aid new art students in their understanding of the field of art.		
104	VISUAL ARTS APP IN ELEM CLSSRM	3 credits
Exploration of methods, materials, processes and visual techniques relating two- and three-dimensional art experiences for the teacher of elementary children. No credit as an elective course for art majors.		
105	INTRODUCTION TO ART EDUCATION	2 credits
An introduction to the art teaching profession, this course covers historical and contemporary issues and practices in art education and in public schooling in the United States.		
131	FOUNDATION DRAWING I	3 credits
Corequisite: 103. Introduction to drawing materials and techniques with an emphasis on observation, representation, and formal principles of composition and design.		
132	INTRODUCTION TO DESIGN	3 credits
Introductory course in design theory increases the graphic designer's ability to solve visual problems using both practical and theoretical approaches.		
144	FOUNDATION 2D DESIGN	3 credits
Fundamental information about the theory and practice of visual design as applied to surfaces, including composition, color and pictorial illusions with lecture and studio experience.		
145	FOUNDATION 3D DESIGN	3 credits

Introduction to meaning of "design" and act of designing in real space. Study of naturally occurring form, structure and process.		
184	TYPOGRAPHY 1	3 credits
Prerequisite: 132. Studio experience in concept development and processes, tools and materials of graphic designers. Elementary design problems in graphic design.		
185	INTRO: COMPUTER GRAPHICS	3 credits
(May be repeated for a total of six credits) Prerequisites: 131 and 144 or permission of instructor. Introduction to the use of microcomputers as a creative tool for visual artists and designers.		
210	VISUAL ARTS AWARENESS	3 credits
Prerequisite: 3400:210 or 3400:221. Lecture course providing appreciation and understanding of arts of various types/periods with emphasis on topics and influences on societies, rather than historical sequence		
213	INTRODUCTION TO PRINTMAKING	3 credits
Prerequisites: 131 or 144. A fast-paced introduction to traditional and contemporary high-tech/low-tech printmaking processes including relief, intaglio, lithography, and screenprint as well as digital printmaking.		
214	RELIEF/SCREENPRINT	3 credits
Prerequisite: 213. An introduction to the history, process, and contemporary practice of relief printing and screenprinting.		
216	INTAGLIO/LITHOGRAPHY	3 credits
Prerequisite: 213. An introduction to the history, process, and contemporary practice of intaglio and lithographic printing.		
222	INTRODUCTION TO SCULPTURE	3 credits
Prerequisite:145. Exploration of aesthetic factors influencing sculptural statements. Development of proficiency in the use of tools, materials and techniques.		
223	SCULPTURE: STONE	3 credits
Prerequisite: 222. Beginning level lecture and studio course using both traditional hand tools for the creation of stone sculpture. History of the use of stone, evolution of stone working technology and contemporary artists working with stone.		
224	INSTALLATION ART	3 credits
Prerequisite: 222. Lecture and studio course introducing the student to the medium of installation art, a major emphasis in the contemporary art scene. The history and evolution of installation art and its use by contemporary artists.		
231	INTERMEDIATE DRAWING	3 credits

Prerequisite: 131. Continued investigation of basic drawing concepts. Introduction to drawing in color with further development of observation, design, technique and conceptual skills.		
233	FOUNDATION LIFE DRAWING	3 credits
Prerequisite: 131. Perceptual problems in drawing from the life model. Study of skeletal, muscular, mechanical nature of human figure and application of this knowledge to the resolution of aesthetic problems. (May be repeated for a total of six credits.)		
234	ANATOMY FOR ARTISTS	3 credits
Prerequisite: 233. Studio/lecture experience in drawing and sculpture with an emphasis on human skeletal, muscular, and surface structure.		
243	INTRODUCTION TO PAINTING	3 credits
Prerequisites: 131, 144. Study of aesthetic and technical problems involved in painting. Emphasis on painting from observation, and understanding of color in painting.		
244	COLOR CONCEPTS	3 credits
Prerequisites: 131 and 144. Lecture and studio experience giving information concerning perception of color, additive color phenomena of light, subtractive color phenomena of pigments and dyes, color notation systems and psychological effects of color.		
246	INTRO: WATER-BASED MEDIA	3 credits
(May be repeated for a total of six credits.) Prerequisites: 131, 144. Experimentation with water-based media such as tempera, acrylic, and gouache.		
250	FOUNDATION REVIEW	0 credits
Prerequisites: 131, 144, 145, 233. Credit/noncredit course. Faculty review of art foundation studio work from prerequisite/corequisite courses.		
251	WATERCOLOR	3 credits
Prerequisites: 131, 144. Students will investigate traditional and contemporary watercolor techniques and mixed media while addressing issues of composition and conceptual concerns.		
253	CERAMICS FOR NON-ART MAJORS	3 credits
Hand-building, glazing and kiln loading. Link skills to personal experience, ceramic history and contemporary art and craft issues. No credit toward a major in art.		
254	INTRODUCTION TO CERAMICS	3 credits
Prerequisites: 131 and 144. Studio/lecture course exploring potentials of hand-building techniques in both sculptural and functional forms. Clay processing, glaze application and practical kiln firing.		
266	INTRODUCTION TO METALSMITHING	3 credits

288	TYPOGRAPHY 2	3 credits
Prerequisite: 184. Introduction to typographic design to communicate. Study of letterforms, history, comping skills, layout design and digital technology.		
289	PRODUCTION 1	3 credits
Prerequisite: 132. A computer-based course. Using industry-standard software, students focus on incorporating type and image to produce comprehensive design solutions.		
300	ART SINCE 1945	3 credits
Prerequisite: 101 or permission of instructor. Consideration of significant developments in visual art forms since World War II in architecture, sculpture, printing, photography, metal, textile, ceramics, printmaking and graphic design.		
301	MEDIEVAL ART	3 credits
Prerequisite: 101 or permission of instructor. Painting, mosaics, architecture, sculpture, and luxury arts of medieval Europe from 4th through 14th centuries.		
302	ART IN EUROPE- 17TH-18TH CNTRY	3 credits
Prerequisite: 101 or permission of instructor. Analysis of major European examples of architecture, landscape design, painting, prints and sculpture from beginning of the 17th century until approximately 1850.		
303	ITALIAN RENAISSANCE ART	3 credits
Prerequisite: 101 or permission of instructor. Study of architecture, painting and sculpture of Italy during 13th through 16th centuries.		
306	RENAISSANCE ART IN NRTH EUROPE	3 credits
Prerequisite: 101 or permission of instructor. Painting, architecture, and sculpture of northern Europe from 14th through 16th centuries.		
307	HISTORY OF GRAPHIC DESIGN	3 credits
Prerequisite: 101 or permission of instructor. A lecture course analyzing the development of graphic design as an art form from Neolithic sources to the present.		
309	GREEK ART	3 credits
The course presents art and architecture of ancient Greeks, and focuses on major monuments, myths, rituals, socio-political constructs, and methodological issues associated with Greek art.		
310	4D DESIGN: MOTION	3 credits
Prerequisites: 280, 289, 387 or by permission. Study the history of animation and the principles of animation. Design motion graphics in a non-linear environment. Emphasis on audio, video, type and image.		

311	4D DESIGN: INTERACTIVITY	3 credits
Prerequisites: 280, 289, 387 or by permission. Students are introduced to interactivity, user interaction, time-based and on-screen design with a focus on design principles and concerns of type, image, audio, video and animation.		
312	ROMAN ART & ARCHITECTURE	3 credits
Study of Roman art and architecture from the sixth century B.C.E. through the fourth century B.C.		
313	SURVEY OF ASIAN ART	3 credits
This course introduces the student to the historical, cultural, political, and religious aspects of civilization that influenced the aesthetics of Asian art.		
317	PRINT MATRIX	3 credits
Prerequisites: 214 and 216. Intermediate printmaking class requiring the application of printmaking to the production of imagery for specific printmaking applications - Book Arts, Hybrid Prints, Serial Imagery, etc.		
318	PORTRAIT LIGHTING	3 credits
Prerequisite 276. Studio and location lighting techniques for commercial and fine art portraiture.		
319	PRINTMAKING REVIEW	0 credits
Prerequisites: 317. A committee of full-time faculty review portfolio of studio work completed in all printmaking courses.		
320	PRODUCT PHOTOGRAPHY	3 credits
Prerequisite: 276. Professional skills are further developed via studio and tabletop photography assignments based on current trends in illustration and advertising photography.		
322	SCULPTURE II	3 credits
(May be repeated for a total of nine credits) Prerequisite: 222 or permission. Continuation of 222. Addresses more advanced techniques. May include fabrication, casting, carving, or assemblage.		
323	LOST WAX CASTING	3 credits
(May be repeated for a total of six credits.) Prerequisites: 222 or 266. Bronze and aluminum casting using the lost wax process. Students learn foundry techniques and apply them to individual artistic statements.		
335	INTERMEDIATE LIFE DRAWING	3 credits
Prerequisites: 233. Continued development of the content established in Life Drawing with additional emphasis on draped models, drawing materials and aesthetics. (May be repeated for a total of nine credits.)		
348	INTERMEDIATE PAINTING	3 credits

402	MUSEOLOGY	3 credits
Lecture course dealing with museum science, including museum history, staff structures, art handling, storage, and presentation and exhibit preparation.		
403	ART AND CRITICAL THEORY	3 credits
Prerequisites: 100, 101 or permission of the instructor. This course, designed for both studio and art history majors, surveys the major theoretical currents in contemporary criticism and art history.		
405	HISTORY OF ART SYMPOSIUM	1-3 credits
(May be repeated for credit when a different subject is indicated) Prerequisite: one art history course beyond 101 or permission of instructor. Lecture, individual research and evaluation, group discussion related to a specific time period or to an artistic problem.		
407	METHODS OF ART HISTORY	3 credits
Prerequisite: 101 or permission of the instructor. This course explores the history of the discipline and the permutations it has undergone since its establishment in the early years of the nineteenth century.		
409	TIME-BASED MEDIA	3 credits
(May be repeated for a total of six credits.) Prerequisite: 285. Through the development of increasingly complex projects, students explore the conceptual and aesthetic considerations of creating motion media based presentations.		
410	METHODS OF TEACHING ELEM ART	3 credits
Prerequisite: 105. Corequisite: 428. A field based course presenting the necessary skills and knowledge to successfully implement, plan, instruct, and assess a diverse art-based curriculum for the elementary classroom.		
411	METHODS OF TEACH SECONDARY ART	3 credits
Prerequisite: 105. Corequisite: 429. A field based course presenting the necessary skills and knowledge to successfully implement, plan, instruct, and assess a diverse art-based curriculum for the secondary classroom.		
412	STUDENT TEACHING COLLOQUIUM	1 credits
Prerequisite: Senior status, successful completion of field experience, and permission of instructor. Corequisite: 5300:495. Lecture course providing the skills and knowledge necessary for art education licensure. Student will gain knowledge in resume building, licensure requirements, and practical pedagogical techniques.		
418	MULTIPLES AND MULTIPLICITY	3 credits
Prerequisites: Student must have Junior standing and have completed at least one 7100:300 level course in their major. Advanced printmaking class recommended for studio majors working with multiples, variability, and production requiring students to define and complete their own projects.		

419	ST: PRINT	3 credits
Prerequisites: 131 or 144 or 145. Investigation in specialized printmaking media like Photogravure, Digital Printing, and Book Arts among others. May be offered in conjunction with university sponsored residency or travel.		
420	SCULPTURE PORTFOLIO REVIEW	0 credits
Perquisites: 7100:422; corequisite: 7100:422. A committee of full-time faculty reviews portfolio of studio work completed in prerequisite/corequisite courses.		
422	ADVANCED SCULPTURE	3 credits
(May be repeated for a total of 15 credits.) Prerequisite: 250 and 322. Development of individual points of view and sculptural statements.		
423	COMMUNITY BASED ART EDUCATION	3 credits
A service learning course for art educators that combines traditional lecture, demonstration, and hands-on workshop to introduce students to contemporary practices in community-based arts.		
424	MIDDLE SCHOOL MATERIALS & TECH	3 credits
A lecture course in which students will gain hands-on approach to developing instructional art materials and lessons for the middle school.		
425	CERAM: METHDS, MATERLS, & CNCP	3 credits
Prerequisites: 131, 145. (Lab) Ceramics for teachers. Introduces the potter's wheel, hand-building, firing kilns, history of ceramics and ceramic forms, safety in the studio and strategies for teaching ceramics.		
426	EARLY CHILDHOOD ART EDUCATION	3 credits
A lecture course for art educators exploring visual arts as a vehicle for whole child development and learning across the curriculum in P,K-5 school settings.		
427	ART IN THE INCLUSIVE CLASSROOM	3 credits
Prerequisite: 5100:220. Art education course exploring the use of art with diverse populations through lecture, hands on art making and site visitations.		
428	ELEMENTARY FLD EXP: ART LICEN	1 credits
Corequisite: 410. Instructional experience in the P,K-6 art classroom to apply theory and research into practice.		
429	SECONDARY FLD EXP: ART LICEN	1 credits
Corequisite: 411. Instructional experience in the 7-12 art classroom to apply theory and research into practice.		
430	PROFESS PRAC FOR ART EDUCATORS	1 credits

Prerequisites: 410, 411. A lecture course providing support and guidance to develop the pre-professional skills and knowledge necessary for employment in the field of Art Education.		
435	CONTEMPORARY ART ISSUES	3 credits
Prerequisite: 7100:102. Discussion course for advanced students in any visual arts discipline, dealing with concepts and critical theories related to current practice of the visual arts.		
450	ADVANCED LIFE DRAWING	3 credits
Prerequisite: 335. Drawing from the live model, with an experimentation leading to an individual style. (May be repeated for a total of 9 credits).		
452	SERVICE LEARNING IN ART	3 credits
Prerequisite: senior standing. An interdisciplinary, lecture/studio course that integrates fine art and design to promote understanding of the importance of sustained community outreach and serving as arts advocates.		
453	ADVANCED THROWING	3 credits
(May be repeated for a total of 6 credits.) Prerequisite: 353. Emphasis on making pottery using the potters wheel beyond the beginning level including organization and planning skills needed to make and exhibit or sell items.		
454	ADVANCED CERAMICS	3 credits
(May be repeated for a total of 18 credits.) Prerequisite: 250 and 353 or 354. Emphasis on refinement of technique toward personal aesthetic statement in preparation for professional or private studio production. Student may choose a general survey of subject matter or a more concentrated area of study.		
455	ADVANCED PAINTING	3 credits
Prerequisites: 231, 348. Exploration of aesthetic and conceptual issues involved in developing an individual stylistic approach to image making, leading to senior portfolio and BFA exhibition. (May be repeated for a total of 15 credits)		
456	CERAMIC PORTFOLIO REVIEW	0 credits
Prerequisites: 454. A committee of full-time faculty reviews portfolio of studio work completed in prerequisite courses.		
460	THE MYERS FORUM: STUDIO	1-3 credits
Prerequisites: 7100:102. 250, & successful completion of at least one 300 level course in the Myers School of Art, or permission of the instructor. Cross-disciplinary studio addressing current issues related to theory and practice of visual communication.		
461	THE MYERS FORUM: SEMINAR	1-3 credits

Prerequisites: 7100: 102, 250, & successful completion of at one 300 level course in the Myers School of Art, or permission of the instructor. Cross-disciplinary seminar addressing current issues related to the theory and practice of visual communication.

465 PAINT/DRAWING SEN EXHIB PREP 0 credits

Prerequisites: senior status, the second 455 Advanced Painting/Drawing. Preparation of the portfolio to be exhibited in the Senior Exhibition.

466 ADVANCED METALSMITHING 3 credits

(May be repeated for a total of 18 credits.) Prerequisites: 250 and 366. Investigation in depth of aesthetic and technical problems of metalsmithing. Student works on individual projects under guidance from instructor.

467 METALSMITHING PORTFOLIO REVIEW 0 credits

Prerequisite: 466; corequisite: 466. A committee of full-time faculty review portfolio of studio work completed in prerequisite courses.

472 PHTO III: COLOR FR NON-ART MAJ 3 credits

Prerequisite 374. Advanced level lecture, studio and lab experience in color photography introducing students to technical, aesthetic and conceptual issues of the medium.

473 PHOTOGRAPHY III: COLOR 3 credits

Prerequisite 375. Advanced level lecture, studio and lab experience in color photography introducing students to technical, aesthetic and conceptual issues of the medium.

474 ADV PHOTOGRAPHY NON-ART MAJORS 3 credits

Prerequisite: 374. Studio course with emphasis on advanced individual projects.

475 ADVANCED PHOTOGRAPHY 3 credits

(May be repeated for a total of 21 credits.) Prerequisites: 250, 375, and 473. Photographic media, light and photographic equipment manipulated experimentally to produce creative graphic images. Student works under guidance of instructor on advanced individual projects.

476 PHOTOGRAPHY PORTFOLIO REVIEW 0 credits

Prerequisite: 475. A committee of full-time faculty reviews portfolio of studio work completed in prerequisite/corequisite courses.

479 PROF PHOTOGRAPHIC PRACTICES 3 credits

Prerequisites: 475 and Senior Status. Introduction to business and marketing practices in the fine art and commercial photography industry. Financial, legal, organizational, promotional, interpersonal, and ethical practices will be covered.

480 ADVANCED GRAPHIC DESIGN 3 credits

(May be repeated for a total of nine credits) Prerequisite: 388 or permission of instructor. Student works on advanced-level individual projects under supervision of instructor.

481 DESIGN X NINE 3 credits

(May be repeated for a total of nine credits.) Prerequisite: 388. Course focusing on professional business practices. Students chosen by portfolio review in junior year. Practical experience gained through working with clients and outside sources.

482 CORP IDENTITY & GRAPHIC SYST 3 credits

Prerequisite: 384 and 388. Advanced projects in corporate identity, graphic systems analysis, design. Problem solving for these specific areas of graphic design within mechanical limitations of art reproduction.

483 GRAPHIC DESIGN PRESENTATION 3 credits

Prerequisite: 482. Students prepare a professional portfolio and resume. The course includes project development, portfolio review and exhibition.

484 ILLUSTRATION 3 credits

(May be repeated for a total of nine credits.) Prerequisite: 283 or permission of instructor. Application of painting and drawing skills and aesthetic sensitivity to specific commercial illustration and editorial art assignments.

485 ADVANCED ILLUSTRATION 3 credits

(May be repeated for a total of nine credits) Prerequisite: 484 or permission of instructor. Advanced projects designed to tune student's personal aesthetic to communicative imagery. A more individual approach to design. Drawing and painting emphasized as is experimentation with multimedia.

486 INTERACT MULTIMEDIA DEVELOPMT 3 credits

(May be repeated for a total of six credits.) Prerequisite: 383. Utilizing two and three dimensional computer imagery, animation, video, and audio, students will plan, develop, and evaluate multimedia presentations, emphasizing scripting, sequencing, and interactivity.

487 PACKAGING DESIGN 3 credits

Prerequisite: 482. Synthesis of two- and three-dimensional visual thinking. Research in materials applicable to packaging of various products. Assignment of projects stressing development of conventional and experimental package design.

488 TYPOGRAPHY 4 3 credits

Prerequisites: 387. Senior level investigation of publication design, promotional brochures, and annual reports from concept to presentation. Focus on good concepts and problem-solving design.

489 ST: STUDIO ART 3 credits

(May be repeated for credit when a different subject or level of investigation is indicated) Prerequisite: Varies by course. Group Investigation of Topics not offered elsewhere in curriculum.

490	W: ART	1-4 credits
(May be repeated for credit when a different subject or level of investigation is indicated - 490 to maximum of eight credits; 590 to maximum of 12 credits.) Prerequisite: advanced standing in art or permission of instructor. Group investigation of a particular phase of art not offered by other courses in curriculum.		
491	ARCHITECTURAL PRESENT I	3 credits
Prerequisite: 144. Studio practice in architectural design and presentation methods in residential and commercial interiors.		
492	ARCHITECTURAL PRESENT II	3 credits
Prerequisites: 491/591. Continuation of concepts covered in Architectural Presentations I with additional work in color rendering techniques. Emphasis on a variety of rendering mediums.		
493	ADV PHOTOGRAPHY: DIGITAL PRINT	3 credits
Prerequisites: 280, 475. Digital technologies for fine-art photographers including scanning negatives; workflow; color management; image adjustment, correction and optimization; inkjet printing; and digital asset management.		
494	ST: ART EDUCATION	1-3 credits
May be repeated for credit when a different subject or level of investigation of topics of interest to the art education student is not covered elsewhere in the curriculum.		
495	SENIOR EXHIBITION	0 credits
Prerequisite: senior standing and permission. Exit review of work from B.F.A. candidate's major courses.		
496	ART INTERNSHIP/PROF EXPERIENCE	1-6 credits
(Repeatable for credit. No more than 6 credits of internship may apply toward the elective requirement for completion of any art department major.) Prerequisites: junior level in major program and permission of Internship Director. In-depth professional training affording the intern on-the-job experience in selected areas of specialization.		
497	INDP STUDY: ART	1-7 credits
(May be repeatable for 7 credits). Prerequisites for art majors: completion of at least one advanced course in the major with a grade of A or A- and permission of instructor. Investigation in depth of aesthetic and technical problems within a studio-selected area of specialization. Student must present in writing a proposed study plan and time schedule for instructor approval. Prerequisites for non-art majors: permission of instructor.		
498	SENIOR THESIS: HIST OF ART	1-3 credits
(May be repeated for credit when a different subject or level of investigation is indicated) Prerequisites: 14 credits in art history and permission of instructor. Individual research in art history centered around limited topic, such as specific time period, history of specific techniques, a single artist or movement in art history. No more than 10 credits will be counted toward major.		

499

HONORS IN ART

3 credits

(May be repeated for a total of six credits) Prerequisites: senior standing in the Honors Program and approval of honors project by faculty advisor. To be used for research in the Honors Program established by student and his/her adviser(s).

Course Details (7400)

123	FUNDAMENTALS OF CONSTRUCTION	3 credits
Basic theory and application of construction fundamentals, including experiences with patterns and specialty fabrics.		
125	PRINC: APPAREL DESIGN	3 credits
The study of contemporary apparel design and the relationship of design elements and principles to personal characteristics and social/professional orientation.		
139	FASHION & FURNISH INDUSTRIES	3 credits
Overview of fashion and furnishings industries including production, distribution, promotion, and the impact of cultural influences. Discussion of career opportunities.		
147	ORIENT-PROF STD-FAM & CONS SCI	1 credits
Survey of history and development of family and consumer sciences with emphasis on professional and career opportunities.		
158	INTRO: INTERIOR DESIGN	3 credits
Introduction to interior design studies with emphasis on developing basic skills and competencies required for residential design.		
201	COURTSHIP, MARR & FAM RELATION	3 credits
Love, intimacy, relationship development, sexuality, marriage/child rearing are studied in lifespan perspective. Emphasis placed on individual relation to changing family/social/cultural demands.		
219	DRESS AND CULTURE	3 credits
Study of cultural, social, psychological and economic aspects of clothing. Emphasis on expression and use of clothing in relation to self, society and culture. Lecture/discussion.		
225	TEXTILES	3 credits
Basic study of natural and manufactured fibers. Emphasis on physical properties, selection and care. Attention given to design and manufacture of textiles. Lecture/Laboratory.		
226	TEXTILE EVALUATION	3 credits
Prerequisite: 225. Evaluating method, quality, and necessity of dyes, finishes, other coloration techniques and designs.		
241	INTRO: FAM & CONS SCI EDUC	3 credits

Introduction to the teaching of Family and Consumer Sciences in the secondary schools. Emphasis on state standards, current trends and societal factors affecting career-technical programs.		
255	FATHERHOOD: PARENT ROLE	3 credits
Prerequisites: 201 or 265. Historic evolution of the father role, its changing social definition, and father's potential effects on a child's development--birth through adolescence.		
257	AUTOCAD FOR INTERIOR DESIGN	3 credits
Prerequisites: 158 or permission from instructor. An introductory course in computer drafting as an alternative to conventional drafting for interior design applications.		
258	LIGHT IN MAN-MADE ENVIRONMENTS	3 credits
Prerequisites: 2940:250. Comprehensive study of the essential principles of light in a three-dimensional context for man-made environments.		
259	FAMILY HOUSING	3 credits
A study of three basic aspects of family housing: physical/design, financial/legal, and sociological.		
265	CHILD DEVELOPMENT	3 credits
Physical, cognitive, language, social, emotional, and personality development of the child from prenatal through age eight. Observation of children in early childhood educational settings.		
270	THEORY & GUIDANCE OF PLAY	3 credits
Prerequisite: 265. Theory and guidance of play as primary vehicle and indicator of physical, intellectual, social, emotional development and learning of children from birth to kindergarten.		
280	EARLY CHILDHOOD CURRIC METHODS	3 credits
Prerequisite: 265. Planning, presenting, evaluating creative activities in art, music, movement, language arts, logico-mathematics and science. Space, time, materials and adult-child interaction are emphasized.		
300	LEGAL ENVIRONMENT OF FAMILIES	3 credits
Introduction to legal terminology, reasoning and analysis, court systems and procedures within the context of family and consumer law.		
301	CONSUMER EDUCATION	3 credits
Practical application that reviews and analyzes consumer education methods with major emphasis on the evaluation of consumer education programs. Online section available.		
303	CHILDREN AS CONSUMERS	3 credits
Study of the consumer role of children three through eighteen years. Emphasizes research data on children as consumers and consumer education for children.		
305	ADV CONSTRUCTION & TAILORING	3 credits

Prerequisite: 123. Advanced theory and principles in construction of couture garment. Construction of coat or suit jacket utilizing custom tailoring techniques. Two hours lecture, four hours laboratory.		
311	SEMINAR IN FIBER ARTS	3 credits
Exploration of a specific fiber arts technique such as needle arts, weaving, surface design, wearable art, or machine stitchery. (May be repeated for a total of nine credits).		
331	INTERIOR DESIGN THEORY	3 credits
Prerequisites: 158, 7100:144. A comprehensive study of interior design theories and application in the built environment.		
333	PROGRAMMING & SPACE PLANNING	3 credits
Prerequisites: 259, 331; 2940:250. A comprehensive study of space planning principles and the programming phase of the design process.		
334	SPECIFICATIONS FOR INTERIORS I	3 credits
Prerequisites: 225, 258. A comprehensive study of composition, characteristics, manufacture, dimensions and use, bi-products, installation, and specifications of interior construction materials.		
335	SPECIFICATION FOR INTERIORS II	3 credits
Prerequisites: 334. A comprehensive study of interior finish material with emphasis on soft goods and textiles, selection criteria, estimating, and writing specifications.		
336	PRIN & PRAC OF INTERIOR DESIGN	3 credits
Prerequisites: 334. Study of the business of interior design to include initiating and maintaining a successful practice in residential or non-residential design.		
337	INTER DESIGN CONTRACT DOCUMENT	3 credits
Prerequisites: 7100:492. A comprehensive study of contract documents and work drawings required for the design of interior spaces. Emphasis on three-dimensional representation.		
338	INTRO TO REVIT - INTER. DESIGN	3 credits
This is an introductory course in second generation parametric computer drafting as an alternative to conventional or older CAD programs for interior design applications.		
352	STRATEGIC MERCHANDISE PLANNING	3 credits
Prerequisite: General Math Requirement. The fashion buyer's role in merchandise management and decision making with spreadsheets and merchandise mathematics incorporated into computer simulations.		
360	PARENT-CHILD RELATIONS	3 credits
Prerequisite: 265. The study of interactive parent-child relations from infancy through adulthood and the internal and environmental forces which impact upon family dynamics. Online course.		

362	FAMILY LIFE MANAGEMENT	3 credits
Introduction to management theories, processes and principles as applied to utilization of human and material resources in promotion of individual and family well-being.		
365	INFANT, FAMILY AND SOCIETY	3 credits
Prerequisite: 265. In depth examination of physical, cognitive, language, social, and emotional development of the infant from prenatal through age two. Observation of infants in daycare settings.		
370	TEACHING, EARLY CHILD CLASSRM	2 credits
Prerequisites: 7400:265, 270, and 280. Assists students with the integration of knowledge, skills, attitudes, and values needed when working with young children, as learned in the child development program.		
401	AMERICAN FAMILIES IN POVERTY	3 credits
Prerequisites: 201 or 265, and senior status. Overview of the issues, trends and social policies affecting American families living in poverty. Online section available.		
402	ADVANCED FIBER ARTS	3 credits
Prerequisite: 311 or Permission of the instructor. An advanced course that builds on the skills learned in 7400:311, with the intention of reaching a caliber suitable for one of the many professions in this field, including business aspects such as market analysis and product development.		
404	MIDDLE CHILDHOOD & ADOLESCENCE	3 credits
Prerequisites: 201, 265 or permission of instructor. The influences of middle childhood and adolescent behavior on the family and the influences of the family environment on middle childhood and adolescent development.		
406	FAMILY FINANCIAL MANAGEMENT	3 credits
Analysis of the family as a financial unit including financial problems and their resolution, decision-making patterns and financial practices behavior. Cases, exercises, problems and computer analysis.		
407	FCB OCCUP EMPLOYMNT EXPERIENCE	4 credits
Provides student with knowledge of current business and industrial practices at level minimally commensurate with employment expectations of graduates of vocational job training programs in Family and Consumer Sciences.		
418	HISTORY OF INTERIOR DESIGN I	4 credits
The study of furnishings, interiors, and architecture from antiquity through the eighteenth century, with emphasis on the social-cultural influences shaping their development.		
419	HISTORY OF INTERIOR DESIGN II	4 credits

438	HISTORY OF FASHION	3 credits
Study of western fashions, textiles, and designers with emphasis on social-cultural influences.		
439	FASHION ANALYSIS	3 credits
Prerequisites: 125, 139, senior status. In-depth study of resources and processes for the analysis and forecasting of fashion trends. Emphasis on current designers and environmental forces that influence fashion.		
440	FAMILY CRISIS	3 credits
Study of family stress and crisis including internal and external variables and their influence on degree of disorganization, coping and recovery. Includes theory, research and application dimensions.		
441	FAM RELATNSHIP MID & LATER YRS	3 credits
Exploration of family and individual development of communication and education during the middle and later years of life. Emphasis on issues related to intimacy, economics, social policies, psychological and biological changes.		
442	HUMAN SEXUALITY	3 credits
Prerequisite: 201 or permission of instructor. Introduction to problems and values. Emphasis is on the role of values in intimate relationships, the diverse dimensions of sexual responsibility.		
446	CULTURE, ETHNICITY & FAMILY	3 credits
Prerequisites: 201 or 265, and senior status. Study of the role of culture and ethnicity in adaptation of the family system to environment. Online section available.		
447	SR SEM: CRIT ISSUES-FCS DEV	1 credits
Prerequisites: FCS major & senior standing. Consideration of family and consumer sciences as a profession and its impact on the quality of life of individuals, families and their environments. Analysis of challenges facing the profession and all home economists.		
448	BEFORE & AFTER SCHL CHILD CARE	2 credits
Study of the development, implementation and evaluation of school-age child-care programs for before and after school and vacation periods.		
449	FLAT PATTERN DESIGN	3 credits
Prerequisite: 123. Theory and experience in clothing design using flat pattern techniques.		
450	FAMILIES, INDIVIDL & ENVIRONMT	3 credits
Prerequisite: FCS major, senior standing or completion of 90 credits or permission of instructor. Integrative exploration of issues affecting the well-being of individuals, families, and communities in the multiple environments in which they function.		
458	SENIOR DESIGN STUDIO II	3 credits

Prerequisites: 334,335,336,337,422. A comprehensive study of the nonresidential design with emphasis on conceptual, analytical and graphic skills.		
459	SENIOR DESIGN STUDIO IV	3 credits
Prerequisites: 334,335,336,337,422. Advanced space planning and problem solving experiences for application in residential and nonresidential design.		
460	ORG & SUPRV CHILD CARE CENTERS	3 credits
Theory, principles and procedures involved in establishing and operating centers for infants, toddlers, preschool and school-age children.		
461	CASE MGMT CHILDRN & FAMILIES I	3 credits
Provides an overview of Case Management basics in a multi-systems collaborative context. Includes roles, values, principles, state and service systems, and service coordination.		
462	CASE MGMT CHLDRN & FAMILIES II	3 credits
Prerequisite: 461/561. Provides in-depth exploration of Case Management principles and practice. Emphasis on process and functions, assessment, cross-system service planning and coordination, advocacy, and cultural diversity.		
463	PRACT: CROS-SYS CSE MGT:CHD&FA	3 credits
Prerequisites: 461/561, 462/562, and six hours of electives. Provides on-site opportunities to apply skills in cross-systems collaborative Case Management with children and families. Includes review of strategies, ethics, and survival skills, and supervision.		
478	SENIOR PORTFOLIO REVIEW	1 credits
Prerequisites: permission of instructor. The development of the interior design portfolio.		
479	THE NCIDQ EXAMINATION	1 credits
Prerequisites: permission of Program Director. The course is designed to help candidates prepare for the National Council for Interior Design Qualification Examination.		
485	SEM: FAMILY & CONSUMER SCIENCE	1-3 credits
Prerequisite: permission of instructor. Exploration and evaluation of current developments in selected areas.		
490	W: FAMILY & CONSUMER SCIENCES	1-3 credits
Prerequisite: at least junior standing. Investigation on current issue or topic in selected areas of home economics and family ecology. May be on off-campus study tour or an on-campus full-time group meeting.		
491	CAREER-TECH FCS INSTR STRATEGS	3 credits

Course Details (7500)

100	FUNDAMENTALS OF MUSIC	2 credits
<p>Introduction of basic notation and development of functional music reading and keyboard skills. Conducted in electronic keyboard laboratory with computer-assisted instruction available. For non-music majors only, with little or no previous musical training.</p>		
101	INTRO TO MUSIC THEORY	2 credits
<p>Prerequisite: Undergraduate Theory Placement Examination. Designed for prospective music major to correct deficiencies in theory background as determined through department placement testing. Includes classroom instruction and computer assisted instruction in basic notation, scales, meter, key signatures, ear training and basic familiarity with the keyboard. Credit not applicable toward music degree.</p>		
102	INTRO TO MUSIC EDUCATION	2 credits
<p>Prerequisites: 121, 154. Overview of the music teaching profession and its processes. Screening of degree candidates is built into the course with clinical field experience.</p>		
103	TRENDS IN JAZZ	2 credits
<p>An overview of the first 100 years of jazz music with emphasis on major figures and styles central to the development of jazz. This course is specifically designed for the non-music major.</p>		
104	CLASS PIANO I	2 credits
<p>Prerequisite: 101 or permission of instructor. Designed for student with no previous keyboard experience to learn rudimentary keyboard skills such as playing scales, chords, arpeggios and melodic patterns as well as simple music.</p>		
105	CLASS PIANO II	2 credits
<p>Prerequisite: 104 or permission of instructor. Continuation of work begun in 104.</p>		
107	CLASS VOICE I	2 credits
<p>Prerequisite: 101 or permission of instructor. Minimum memorization and solo singing requirement: seven songs. Voice literature emphasis; folk songs, ballads, spirituals, sacred songs and easy art songs in English.</p>		
108	CLASS VOICE II	2 credits
<p>Prerequisite: 107. Minimum memorization and solo singing requirement: eight songs. Vocal literature emphasis: old Italian and English songs, art songs in English or foreign language if student is conversant with the language.</p>		
110	CLASS GUITAR	1 credits

Introduction to the guitar, its repertoire and techniques. Basic classical techniques and music reading, strums, finger-picking, accompaniment patterns, blues styles will be covered.		
121	THEORY & MUSICIANSHIP I	4 credits
Sequential, Prerequisite: Theory Placement Examination (65%) or Introduction to Theory (70%). Analysis, aural/oral skills; Diatonic pitch materials, three clefs; simple-compound meters, rhythmic divisions and subdivisions.		
122	THEORY & MUSICIANSHIP II	4 credits
Sequential, Prerequisite: 7500: 121 (70%). Theory, analysis, aural/oral skills: Seventh chords, secondary function, four-part dictation; asymmetric meters, borrowed subdivision.		
141	EAR TRAINING/SIGHT READING I	1 credits
Prerequisite: Placement in Theory I. Corequisite: 151. Major and minor keys; intervals, triads and inversions; diatonic progressions; three clefs; simple and compound meters; subdivision through sixteenth notes.		
142	EAR TRAINING/SIGHT READING II	1 credits
Prerequisites: 141 and 151. Corequisite: 152. Seventh chords; melodic chromaticism; secondary function; four-part dictation; asymmetric meters; borrowed subdivision.		
151	THEORY I	3 credits
Sequential, Prerequisite: Theory Placement Examination (with a score of 65% or higher) or the grade of C- or higher in 7500:101. Study/creative use of elements of music; investigation of music of major composers of classic/romantic eras; introduction to earlier musical practices and contemporary music.		
152	THEORY II	3 credits
Sequential, Prerequisite: The grade of C- (70%) or higher in 7500: 151. Study/creative use of elements of music; investigation of music of major composers of classic/romantic eras; introduction to earlier musical practices and contemporary music.		
154	MUSIC LITERATURE I	2 credits
Sequential. Familiarization with large body of musical material from all branches of music writing; vocal, instrumental, symphonic and choral music literature. Special attention given to style, form and structural procedures of principal composers.		
155	MUSIC LITERATURE II	2 credits
Sequential. Familiarization with large body of musical material from all branches of music writing; vocal, instrumental, symphonic and choral music literature. Special attention given to style, form and structural procedures of principal composers.		
157	STUDENT RECITAL	0 credits

Required of all music majors until minimum requirement is met. Forum for student and faculty members providing lectures, recitals and opportunity for practice of various skills necessary for successful music performance.

201 EXPLORING MUSIC: BACH TO ROCK 3 credits

Prerequisite: 3400:210 or 3400:221. This course provides non-music majors with the skills to evaluate a wide range of music.

210 JAZZ IMPROVISATION I 2 credits

Prerequisites: 262 and permission of instructor. Study and application of principles of jazz improvisation as they relate the chord-scale structures, motif development and style.

211 JAZZ IMPROVISATION II 2 credits

Prerequisite: 210. Advanced study in principles of jazz composition.

212 MUSIC IND:SURV PRACS &OPPORTUN 2 credits

A study of current practices affecting the professional musician and a survey of career opportunities relating to the music industry.

221 THEORY & MUSICIANSHIP III 4 credits

Sequential, Prerequisite: 122 (70%). Theory, analysis, and aural/oral skills: Chromatic harmony, dictation of mixed and irregular meters, syncopation, dotted rhythms, and ties.

222 THEORY & MUSICIANSHIP IV 4 credits

Sequential, Prerequisite: 221 (70%). Theory, analysis, and aural/oral skills: Advanced chromaticism and rhythm, extended tonality, form, serial and non-serial atonality.

241 EAR TRAINING/SIGHT READING III 1 credits

Prerequisites: 142 and 152. Corequisite: 251. Modulation; chromatic harmony; mixed meters.

242 EAR TRAINING/SIGHT READING IV 1 credits

Prerequisites: 241 and 251. Corequisite: 252. Twentieth-century materials: modes; whole-tone and octatonic scales; secundal and quartal/quintal harmony; classical, jazz, and non-western examples; polyrhythm; total and atonal contexts.

251 THEORY III 3 credits

Sequential, Prerequisite: The grade of C- (70%) or higher in 7500:152. Renaissance vocal counterpoint; Baroque instrumental counterpoint; form and analysis of music of all eras.

252 THEORY IV 3 credits

Sequential, Prerequisite: The grade of C- (70%) or higher in 7500:251. Renaissance vocal counterpoint; Baroque instrumental counterpoint; form and analysis of music of all eras.

254	STRING METHODS I	1 credits
Prerequisites: 102, 155, 222, 262, 276, 277. Fundamentals of technique, tone production, methods, and materials pertaining to teaching violin, viola, cello and string bass in the public schools.		
255	STRING METHODS II	1 credits
Prerequisites: 102, 155, 222, 254, 262, 276, 277. Continuation of the fundamentals of technique, tone production, methods, and materials pertaining to teaching violin, viola, cello and string bass in the public schools.		
259	FRETBOARD HARMONY	2 credits
Prerequisite: 261 or permission of instructor. Essentials of basic theory and harmony as applied to the guitar fretboard: accompaniment, improvisation, transposition, modulation, figures bass, sight reading.		
261	KEYBOARD HARMONY I	2 credits
Sequential. Prerequisites: 105 or equivalency and 122. Essentials of basic theory and harmony practically applied at keyboard; accompaniment, improvisation, transposition, modulation and sight-reading.		
262	KEYBOARD HARMONY II	2 credits
Sequential. Prerequisites: 105 or equivalency and 122. Essentials of basic theory and harmony practically applied at keyboard; accompaniment, improvisation, transposition, modulation and sight-reading.		
265	DICTION FOR SINGERS I	2 credits
Sequential. Prerequisite: permission. Study of diction of the four most used languages (Italian, German, French and English) in vocal performance and international phonetic alphabet. Designed for student who expects to function as vocal performers and/or choral and studio voice teachers.		
266	DICTION FOR SINGERS II	2 credits
Sequential. Prerequisite: permission. Study of diction of the four most used languages (Italian, German, French and English) in vocal performance and international phonetic alphabet. Designed for student who expects to function as vocal performers and/or choral and studio voice teachers.		
268	GRP VOCAL TECH-CHORAL MUSIC ED	2 credits
Prerequisites: 7510:120 or 121, 7520:124. Corequisite: 265. Foundational concepts of group vocal techniques. Designed for choral educators to learn physiology of the voice, basics of vocal production, and applications for the Pre-K-12 choral classroom.		
271	PIANO PEDAGOGY & LITERATURE I	2 credits
Prerequisite: permission of instructor. Examination of musical content and pedagogical orientation of beginning piano material to include appropriate teaching works, methods and ensemble pieces from a variety of historical periods.		
272	PIANO PEDAGOGY & LITERATURE II	2 credits

Prerequisite: 7520:125 or permission of the instructor. A survey of piano literature at all levels of difficulty, with practical emphasis on its use for teaching.

276 TRUMPET & FRENCH HORN METHODS 1 credits

Prerequisite: 102. A comprehensive approach to the performance and pedagogy of the trumpet and French horn for the instrumental music education major in preparation for teaching music.

277 CLARINET & SAXOPHONE METHODS 1 credits

Prerequisite: 276. A comprehensive approach to the performance and pedagogy of the clarinet and saxophone for the instrumental music education major in preparation for teaching music.

289 MUSIC EDUCATION DEPARTMNT JURY 0 credits

Prerequisites: minimum 2.5 accum, C or higher in all freshman/sophomore music education coursework, and minimum 200 jury level. Sophomore exam for music education majors.

298 TECHNOLOGIES OF MUSIC EDUC 2 credits

Introductory hands-on experiences with a wide range of technology applications and strategies to integrate technology into the music curriculum.

305 MARCHING BAND: ORGANIZ & TECH 1-2 credits

Prerequisite: 289, two semesters 7510:126. A discussion of the marching band. Students learn to write complete half-time show, administer marching band program. Required for instrumental music education majors.

307 TECHN JAZZ ENSMBL PERFOR & DIR 1-2 credits

Prerequisite: 102, 155, 222, 262, 276, 277, 305; permission of instructor. Basic experiences relating to conducting, rehearsal techniques, improvisation, performance, repertoire and other matters related to organization and direction of stage bands. Required for instrumental majors.

308 HISTORY & LITERATURE OF JAZZ 3 credits

Prerequisite: permission of instructor. Study of origins of jazz music, its development and influence on today's culture. Investigates evolution of musical instruments as they pertain to jazz music, the artists who perform on them, and their music through live and recorded listening experiences.

309 JAZZ KEYBOARD TECHNIQUES 2 credits

Prerequisite: 262. Study of and familiarization with basic jazz keyboard techniques as they relate to contemporary jazz harmony and theory.

310 JAZZ IMPROVISATION III 2 credits

Prerequisite: 211. Advanced study in the principles of jazz improvisation.

311 JAZZ IMPROVISATION IV 2 credits

Prerequisite: 310. Advanced study in the principles of jazz improvisation.

315	EQUITY & EXCELLENCE-MUSIC ED	3 credits
Prerequisite: 289. Inquiry-based seminars and service learning field experiences for the music education major to develop competence implementing equity and excellence in a culturally pluralistic society.		
325	RESEARCH IN MUSIC	2 credits
Prerequisites: 155, 222, 262. Techniques of basic research methods; examination of selected music materials; field trips to specialized collections.		
339	TEACHING GENERAL MUSIC I	2 credits
Prerequisites: 222, 262, 289. Methods and materials for teaching general music in pre-K to 12th grade classrooms.		
340	TEACHING GENERAL MUSIC II	2 credits
Prerequisites: 289, 339. Advanced methods and materials for teaching general music with emphasis on Orff, Kodaly and Dalcroze methodologies.		
341	JR HIGH/MID SCH CHORAL METHODS	2 credits
Prerequisites: 289, 340. Methods and materials for teaching choral music at the JH/MS level. Develops competencies in literature selection, rehearsal techniques and assessment of the adolescent voice.		
344	SEC CHORAL MUSIC METH/MATERLS	2 credits
Prerequisites: 351, 361. Methods, techniques, and materials for teaching secondary choral music. Develops competencies in literature, selection, rehearsal techniques, and programming methodology.		
345	LOW BRASS METHODS	1 credits
Prerequisites: 222, 262, 277, 289. A comprehensive approach to the pedagogy and performance of the low brass for the instrumental music education major in preparation for teaching music.		
346	FLUTE & DOUBLE REED METHODS	1 credits
Prerequisites: 345, 340, 351. A comprehensive approach to the pedagogy and performance of the flute and double reeds for the instrumental music education major in preparation for teaching music.		
351	MUSIC HISTORY I	3 credits
Sequential. Prerequisites: 122, 155. Development of music from ancient to modern times; scores, recordings and live performances as illustrative material.		
352	MUSIC HISTORY II	3 credits
Sequential. Prerequisites: 122, 155. Development of music from ancient to modern times; scores, recordings and live performances as illustrative material.		
353	ELECTRONIC MUSIC	3 credits

Theory of electronically generated sound and practice of electronic music composition. Emphasis is on understanding digital and analog synthesizers in a MIDI recording studio.

361 CONDUCTING 2 credits

Prerequisites: All Majors 155, 222, 262; Vocal?289, 351, or permission; Instrumental 254, 346, 352, 454 or permission. Study and practice of conducting techniques; patterns, fermatas, tempo and dynamic change, attacks and releases, score reading, aural skills. One hour lab required.

363 INTERMED CONDUCTING: CHORAL 2 credits

Prerequisite: 361 or instructor permission. Introduction to choral conducting with emphasis on manual techniques, vocal skills, aural skills, and gaining conducting experience.

366 SONG LITERATURE I 2 credits

Prerequisite: 222 or permission. Systematic study of French and German song literature presented chronologically. Includes study of stylistic compositional characteristics and repertoire of major composers of song literature.

367 SONG LITERATURE II 2 credits

Prerequisite: 222 or permission. Systematic study of American, British and Italian song literature presented chronologically. Includes study of stylistic compositional characteristics and repertoire of major composers of song literature.

368 GUITAR STYLES 2 credits

Prerequisite: 200 performance level or permission of instructor. Techniques involved in performing musical styles other than those in classical guitar. Included are plectrum styles such as bluegrass, country and rock, as well as flamenco, folk, popular and jazz.

371 ANALYTICAL TECHNIQUES 2 credits

Prerequisite: 222. Techniques for analysis of musical score from all eras of Western music history, with major emphasis on works of Baroque, Classical and Romantic periods.

372 POST-TONAL ANALYTIC TECHNIQUES 2 credits

Prerequisite: 222. Techniques for the analysis of musical scores from the 20th and 21st Centuries. Required of a composition major.

407 JAZZ ARRANGING & SCORING 2 credits

Prerequisite: 454 and 309. Study of jazz instrumentation from small groups to large ensembles.

415 TCH & LIT: BRASS INSTRUMENTS 2 credits

Prerequisite: permission of instructor. Research in current trends and issues in brass teaching techniques and appropriate literature.

416 TCHG & LIT: WOODWIND INSTR 2 credits

Prerequisite: permission of instructor. Research in current trends and issues in woodwind teaching techniques and appropriate literature.		
432	TCHG & LIT: PERCUSSION INSTRUM	2 credits
To train undergraduate and graduate percussion students in techniques of percussion education. Emphasis on research, literature, performance, and techniques from elementary through secondary levels.		
442	INSTRUMENTAL METHODS	2 credits
Prerequisites 346, 352, 454, 254. Procedures for teaching instrumental music at all levels. Special emphasis will be placed on classroom management, recruitment, assessment, literature selection, scheduling, and rehearsal organization. Clinical and field experience.		
443	INSTRUMENTAL PRACTICUM	2 credits
Prerequisite 442. Procedures for teaching instrumental music at all levels. Special emphasis will be placed on classroom management, recruitment, assessment, literature selection, scheduling, and rehearsal organization. Clinical and field experience.		
451	INTRODUCTION TO MUSICOLOGY	2 credits
Prerequisite: 352. Comparative musicology; acoustics; psychology and physiology of music; aesthetics; theory of music theory; historical musicology.		
453	MUSIC SOFTWARE SURVEY/USE	2 credits
Prerequisite: 122 or permission of instructor. A survey and evaluation of available software in the various forms of musical instruction. Students will design a course suitable for submission to a programmer.		
454	ORCHESTRATION	2 credits
Prerequisite: 222. Theory of instrumentation ranging from small ensembles to full band and orchestras.		
455	ADV CONDUCTING: INSTRUMENTAL	2 credits
Prerequisite: 361, 442 or permission. Baton techniques and problems relating to practice, reading and preparation of scores; organization of ensembles; programming; conducting large instrumental ensembles. One hour lab required.		
456	ADVANCED CONDUCTING: CHORAL	2 credits
Prerequisite: 363. Conducting techniques to the choral ensemble, including leadership, error detection, tonal development, stylistic accuracy and analysis. One hour lab required.		
457	SENIOR RECITAL	0 credits
Permission of applied instructor is required for this course, which is taken only during the semester of the Senior Recital.		
458	PERCUSSION METHODS	1 credits

Prerequisite: restricted to students enrolled in Student Teaching in Music. For music education majors; certification, contracts, benefits, job market prospects and student teaching experience sharing.

497	INDP STUDY: MUSIC	1-2 credits
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(May be repeated for a total of four credits) Prerequisites: senior standing and permission of department head. Music major only. Independent study under supervision of specially selected faculty members in subject area bearing on student's own goals.

498	SENIOR HONORS PROJECT: MUSIC	1-3 credits
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(May be repeated for a total of six credits) Individually designed project demonstrating scholarship, analysis, advanced musicianship, research and/or creativity according to student interest. Restricted to University honors music student.

Course Details (7510)

101	UNIV SYMPH: YOUTH ORCHESTRA	1 credits
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This ensemble is designed for the post-secondary student who wishes to participate in a select group performing orchestral literature. By audition only.

102	AKRON SYMPH: CHORUS	1 credits
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Open to University and community members by audition. Prospective members should contact School of Music two weeks before semester begins. Performs with Akron Symphony Orchestra.

103	UNIV SYMPH: ORCHESTRA	1 credits
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Membership by audition. Organization devoted to study of orchestral literature. Full-length concerts as well as special University appearances. Major conducted ensemble.

104	SYMPHONIC BAND	1 credits
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Membership by audition. The University Symphonic Band is the most select band at the University and performs the most demanding and challenging music available. Major conducted ensemble.

105	VOCAL CHORAL ENSEMBLE	1 credits
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Membership open to those enrolled in applied voice study. Coaching and rehearsal of solo and ensemble literature for voices from operatic, oratorio and lieder repertoires.

106	BRASS ENSEMBLE	1 credits
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Membership by audition. Study and performance of literature for brass ensemble from all periods of music history. Frequent public concerts. For advanced brass players.

107	STRING ENSEMBLE	1 credits
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Membership by audition. In-depth study of performance of chamber music literature with special emphasis on string quartet and piano trio.

108	OPERA/LYRIC THEATER WORKSHOP	1 credits
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Membership by audition. Musical and dramatic group study of excerpts from operatic repertoire. Includes annual production of standard opera and/or contemporary chamber work with staging, costumes and scenery.

109	PERCUSSION ENSEMBLE	1 credits
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Membership by audition. Study and performance of literature for various percussion groups; develops skill in ensemble performance.

110	WOODWIND ENSEMBLE	1 credits
Membership by audition. Study, reading, and performance of major orchestral and serenade repertoire for wind instruments.		
114	KEYBOARD ENSEMBLE	1 credits
In-depth study of ensemble playing. Eight semesters required for Keyboard majors, six semesters for Keyboard Mus. Ed. majors, and each semester for keyboard scholarship recipients.		
115	JAZZ ENSEMBLE	1 credits
Membership by audition. Provides experience in jazz ensemble performance. Student is assumed to have knowledge of rudiments of music and some experience in jazz performance.		
116	GUITAR ENSEMBLE	1 credits
Membership by audition. Provides experience in conducted ensemble performance for guitarists. Major conducted ensemble.		
118	SMALL ENSEMBLE-MIXED	1 credits
Chamber Ensemble, Baroque Ensemble and Contemporary Music Ensemble. Each is a group of diverse instruments which rehearses and performs a selected body of music.		
120	CONCERT CHOIR	1 credits
Membership by audition. Highly select mixed choir. Performs classical literature from all periods. Campus, regional, and tour performances. "Major conducted ensemble" for vocal majors.		
121	UNIVERSITY SINGERS	1 credits
Membership by audition. Mixed ensemble devoted to performance of a wide variety of choral literature from classical to popular. "Major conducted ensemble" for vocal majors.		
125	CONCERT BAND	1 credits
Membership by audition. This ensemble performs the finest literature available for concert bands today. Major conducted ensemble.		
126	MARCHING BAND	1 credits
Enrollment is open to all members of the University student body. This organization is noted for its high energy performances at University football games.		
127	BLUE & GOLD BRASS	1 credits
Membership by audition. The official band for Akron home men's basketball games.		
128	UNIVERSITY BAND	1 credits
The University Band is open to all members of the University community and performs excellent standard band literature. Major conducted ensemble.		

129	BLUE & GOLD BRASS II	1 credits
Membership by audition. The official band for Akron home ladies basketball games.		
130	SUMMER CONCERT BAND	1 credits
University of Akron Summer Concert Band is open to all wind and percussion musicians, and performs the finest in band literature.		
421	GUITAR CHAMBER MUSIC	1 credits
Prerequisite: Open to all upper class instrumentalists and vocalists. Guitarists must have taken Guitar Ensemble, 7510:116. Study, coaching, and performance of major works for guitar with other instruments or voice. Major conducted ensemble for guitar majors.		
431	SUMMER DRUM CORPS EXPERIENCE	1 credits
Prerequisite: permission of instructor. Summer Drum Corps Experience provides one credit for participation in a Junior Level - Division I, II, or III Drum and Bugle Corps as part of the Drum Corps International Summer Music Games.		

Course Details (7520)

021	PERCUSSION	2-4 credits
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Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition.
Prerequisite: Permission of applied instructor. For students whose performance skills are not sufficient for placement at the 100 level or for elective credit in non-music programs. No credit toward any major in music. A fee is charged in addition to regular tuition.

022	CLASSICAL GUITAR	2-4 credits
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Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition.
Prerequisite: Permission of applied instructor. For students whose performance skills are not sufficient for placement at the 100 level or for elective credit in non-music programs. No credit toward any major in music. A fee is charged in addition to regular tuition.

023	HARP	2-4 credits
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Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition.
Prerequisite: Permission of applied instructor. For students whose performance skills are not sufficient for placement at the 100 level or for elective credit in non-music programs. No credit toward any major in music. A fee is charged in addition to regular tuition.

024	VOICE	2-4 credits
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Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition.
Prerequisite: Permission of applied instructor. For students whose performance skills are not sufficient for placement at the 100 level or for elective credit in non-music programs. No credit toward any major in music. A fee is charged in addition to regular tuition.

025	PIANO	2-4 credits
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Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition.
Prerequisite: Permission of applied instructor. For students whose performance skills are not sufficient for placement at the 100 level or for elective credit in non-music programs. No credit toward any major in music. A fee is charged in addition to regular tuition.

026	ORGAN	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition.</p> <p>Prerequisite: Permission of applied instructor. For students whose performance skills are not sufficient for placement at the 100 level or for elective credit in non-music programs. No credit toward any major in music. A fee is charged in addition to regular tuition.</p>		
027	VIOLIN	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition.</p> <p>Prerequisite: Permission of applied instructor. For students whose performance skills are not sufficient for placement at the 100 level or for elective credit in non-music programs. No credit toward any major in music. A fee is charged in addition to regular tuition.</p>		
028	VIOLA	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition.</p> <p>Prerequisite: Permission of applied instructor. For students whose performance skills are not sufficient for placement at the 100 level or for elective credit in non-music programs. No credit toward any major in music. A fee is charged in addition to regular tuition.</p>		
029	CELLO	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition.</p> <p>Prerequisite: Permission of applied instructor. For students whose performance skills are not sufficient for placement at the 100 level or for elective credit in non-music programs. No credit toward any major in music. A fee is charged in addition to regular tuition.</p>		
030	STRING BASS	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition.</p> <p>Prerequisite: Permission of applied instructor. For students whose performance skills are not sufficient for placement at the 100 level or for elective credit in non-music programs. No credit toward any major in music. A fee is charged in addition to regular tuition.</p>		
031	TRUMPET OR CORNET	2-4 credits

037	OBOE OR ENGLISH HORN	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition.</p> <p>Prerequisite: Permission of applied instructor. For students whose performance skills are not sufficient for placement at the 100 level or for elective credit in non-music programs. No credit toward any major in music. A fee is charged in addition to regular tuition.</p>		
038	CLARINET OR BASS CLARINET	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition.</p> <p>Prerequisite: Permission of applied instructor. For students whose performance skills are not sufficient for placement at the 100 level or for elective credit in non-music programs. No credit toward any major in music. A fee is charged in addition to regular tuition.</p>		
039	BASSOON OR CONTRABASSOON	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition.</p> <p>Prerequisite: Permission of applied instructor. For students whose performance skills are not sufficient for placement at the 100 level or for elective credit in non-music programs. No credit toward any major in music. A fee is charged in addition to regular tuition.</p>		
040	SAXOPHONE	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition.</p> <p>Prerequisite: Permission of applied instructor. For students whose performance skills are not sufficient for placement at the 100 level or for elective credit in non-music programs. No credit toward any major in music. A fee is charged in addition to regular tuition.</p>		
041	HARPSICHORD	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition.</p> <p>Prerequisite: Permission of applied instructor. For students whose performance skills are not sufficient for placement at the 100 level or for elective credit in non-music programs. No credit toward any major in music. A fee is charged in addition to regular tuition.</p>		
042	COMPOSITION	2-4 credits

066	JAZZ TROMBONE	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition.</p> <p>Prerequisite: Permission of applied instructor. For students whose performance skills are not sufficient for placement at the 100 level or for elective credit in non-music programs. No credit toward any major in music. A fee is charged in addition to regular tuition.</p>		
067	JAZZ SAXOPHONE	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition.</p> <p>Prerequisite: Permission of applied instructor. For students whose performance skills are not sufficient for placement at the 100 level or for elective credit in non-music programs. No credit toward any major in music. A fee is charged in addition to regular tuition.</p>		
068	JAZZ COMPOSITION	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition.</p> <p>Prerequisite: Permission of applied instructor. For students whose performance skills are not sufficient for placement at the 100 level or for elective credit in non-music programs. No credit toward any major in music. A fee is charged in addition to regular tuition.</p>		
069	JAZZ VOCAL STYLES	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition.</p> <p>Prerequisite: Permission of applied instructor. For students whose performance skills are not sufficient for placement at the 100 level or for elective credit in non-music programs. No credit toward any major in music. A fee is charged in addition to regular tuition.</p>		
121	PERCUSSION	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
122	CLASSICAL GUITAR	2-4 credits

127	VIOLIN	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
128	VIOLA	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
129	CELLO	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
130	STRING BASS	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
131	TRUMPET OR CORNET	2-4 credits

136	FLUTE OR PICCOLO	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
137	OBOE OR ENGLISH HORN	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
138	CLARINET OR BASS CLARINET	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
139	BASSOON OR CONTRABASSOON	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
140	SAXOPHONE	2-4 credits

167	JAZZ SAXOPHONE	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
168	JAZZ COMPOSITION	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
169	JAZZ VOCAL STYLES	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
221	PERCUSSION	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
222	CLASSICAL GUITAR	2-4 credits

227	VIOLIN	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
228	VIOLA	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
229	CELLO	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
230	STRING BASS	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
231	TRUMPET OR CORNET	2-4 credits

236	FLUTE OR PICCOLO	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
237	OBOE OR ENGLISH HORN	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
238	CLARINET OR BASS CLARINET	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
239	BASSOON OR CONTRABASSOON	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
240	SAXOPHONE	2-4 credits

267	JAZZ SAXOPHONE	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
268	JAZZ COMPOSITION	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
269	JAZZ VOCAL STYLES	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
321	PERCUSSION	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
322	CLASSICAL GUITAR	2-4 credits

327	VIOLIN	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
328	VIOLA	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
329	CELLO	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
330	STRING BASS	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
331	TRUMPET OR CORNET	2-4 credits

336	FLUTE OR PICCOLO	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
337	OBOE OR ENGLISH HORN	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
338	CLARINET OR BASS CLARINET	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
339	BASSOON OR CONTRABASSOON	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
340	SAXOPHONE	2-4 credits

367	JAZZ SAXOPHONE	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
368	JAZZ COMPOSITION	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
369	JAZZ VOCAL STYLES	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
421	PERCUSSION	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
422	CLASSICAL GUITAR	2-4 credits

427	VIOLIN	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
428	VIOLA	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
429	CELLO	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
430	STRING BASS	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
431	TRUMPET OR CORNET	2-4 credits

436	FLUTE OR PICCOLO	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
437	OBOE OR ENGLISH HORN	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
438	CLARINET OR BASS CLARINET	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
439	BASSOON OR CONTRABASSOON	2-4 credits
<p>Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.</p>		
440	SAXOPHONE	2-4 credits

467	JAZZ SAXOPHONE	2-4 credits
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Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.

468	JAZZ COMPOSITION	2-4 credits
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Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.

469	JAZZ VOCAL STYLES	2-4 credits
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Prerequisite: Placement audition in the School of Music. Individual instruction in vocal or instrumental performance. Two credits represent one half-hour lesson per week; four credits represent an hour lesson. Enrollment may be repeated each semester for credit. A fee is charged in addition to regular tuition. The following courses are intended for a student majoring in one of the programs in the School of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.

Course Details (7600)

102	SURVEY OF MASS COMMUNICATION	3 credits
Considers entire field of contemporary American mass communication. Presents and explains functions of agencies through which news, views and entertainment reach the general public.		
105	INTRODUCTN TO PUBLIC SPEAKING	3 credits
Introduction to principles and practice of speaking by reading examples of speeches, studying techniques and methods employed and applying them in a variety of speaking situations.		
106	EFFECTIVE ORAL COMMUNICATION	3 credits
Principles of communication in speaker-audience, group and informal settings, and application of the principles in speeches, group discussions and other oral and written assignments.		
115	SURVEY OF COMMUNICATION THEORY	3 credits
Presents models of major forms of speech communication and discusses elements of models, their interaction and their function in the human communication system.		
226	INTERVIEWING	3 credits
Study and practical application of selected interviewing concepts associated with job interviewing, journalistic interviewing, and life review interviewing.		
227	NON-VERBAL COMMUNICATION	3 credits
Focused study of the principal aspects of nonverbal communication in public, group and interpersonal settings.		
228	ZTV	1 credits
Participation in the operations of the University television station. *Total repeats not to exceed eight credits. (Note: Students being paid salaries from Student Activity Funds are not eligible for credit.)		
230	WZIP-FM	1 credits
Participation in the operations of the University radio station. *Total repeats not to exceed eight credits. (Note: Students being paid salaries from Student Activity Funds are not eligible for credit.)		
231	FORENSICS	1 credits
Participation in the operations of the University forensics team. *Total repeats not to exceed eight credits. (Note: Students being paid salaries from Student Activity Funds are not eligible for credit.)		
232	BUCHTELITE	1 credits

Participation in the operations of the University newspaper. *Total repeats not to exceed eight credits. (Note: Students being paid salaries from Student Activity Funds are not eligible for credit.)		
233	TEL-BUCH	1 credits
Participation in the operations of the University year book. *Total repeats not to exceed eight credits. (Note: Students being paid salaries from Student Activity Funds are not eligible for credit.)		
235	INTERPERSONAL COMMUNICATION	3 credits
Theory and practice in interpersonal communication concepts and principles. Special topics in communication apprehension, assertive communication, communication dyads and triads, and transactional communication.		
245	ARGUMENTATION	3 credits
Study of process of developing, presenting and defending inferences and arguments in oral communication setting. Includes study and practice of evidence, reasoning, case construction, refutation and rebuttal.		
252	PERSUASION	3 credits
Emphasis on understanding persuasion theory and practice. Includes information analysis of motivational appeals and introduction to propaganda analysis.		
270	VOICE TRAINING FOR MEDIA	3 credits
Effective techniques and development of skills for voice work in radio and television.		
280	MEDIA PRODUCTION TECHNIQUES	3 credits
A basic introduction to both theory and practice of Single Camera production and Digital Editing.		
282	RADIO PRODUCTION	3 credits
Study of radio production techniques and the functional operation of AM and FM radio stations. Includes practical production experience in studio.		
283	STUDIO PRODUCTION	3 credits
Prerequisite: 280. Function, structure and influence of television as communication medium with practical experience in studio.		
284	LEGAL ISSUES IN MEDIA	3 credits
Concentration on government regulations and legal requirements in production of broadcasting, film, and print media. Particular emphasis on copyright.		
287	RADIO & TV WRITING	3 credits
Prerequisite: 3300:111, 112 (with a grade of C or better) or permission. Practical application of broadcast writing principles and techniques used in commercials, PSAs, promotions, as well as scripts for comedy, drama, documentaries, business and education.		

300	NEWSWRITING	3 credits
Prerequisite: Admitted to a four year degree granting college except Summit, ability to type; 3300:111,112 (with a grade of C or better) or permission. Writing and editing news stories; with emphasis on deadline writing in a lab situation.		
301	ADVANCED NEWSWRITING	3 credits
Prerequisite: Admitted to a four year degree granting college except Summit, 300. Advanced course in writing and editing news, features and analysis for print media. Behavioral approach to communication of information and ideas.		
302	BROADCAST NEWSWRITING	3 credits
Prerequisites: Admitted to a four year degree granting college except Summit, 300, 280. The course is designed to teach students how to write, prepare, and deliver broadcast news copy for radio and television.		
303	PUBLIC RELATIONS WRITING	3 credits
Prerequisite: Admitted to a four year degree granting college except Summit, ability to type and 300. Introduction of writing skills required by public relations practitioners emphasizing different approaches for specific publics and specific media.		
304	EDITING	3 credits
Prerequisite: Admitted to a four year degree granting college except Summit, 300. Copy reading, headline writing, proofreading, makeup, type and typography, printing machines and processes, newspaper methods and systems.		
308	FEATURE WRITING	3 credits
Prerequisite: Admitted to a four year degree granting college except Summit, 300. Short newspaper and magazine articles, preparation of articles for publication, human interest situations, extensive writing with class discussion.		
309	PUBLIC RELATIONS PUBLICATION	3 credits
Prerequisite: Admitted to a four year degree granting college except Summit. Preparation of publications used as communication tools in public relations, advertising and organizations. Emphasis upon design, layout and technology.		
325	INTERCULTURAL COMMUNICATION	3 credits
Prerequisite: Admitted to a four year degree granting college except Summit. Study of effect on oral communication process of existence of cultural barriers. Includes study of verbal and nonverbal communication in transracial, informal international and diplomatic communicative settings.		
344	GROUP DECISION MAKING	3 credits
Prerequisite: Admitted to a four year degree granting college except Summit. Study of communication and decision making in small groups. Practice in techniques of group decision-making. Introduction to theory of group communication.		

345	BUSINESS & PROFESSIONAL SPEAKING	3 credits
Prerequisite: Admitted to a four year degree granting college except Summit; 7600:105 or 106. Practical improvement in speaking skills used in business settings.		
346	ADVANCED PUBLIC SPEAKING	3 credits
Prerequisite: Admitted to a four year degree granting college except Summit; 7600:105 or 106. Theory and practice of public speaking: audience analysis; advanced methods for organizing persuasive speeches; techniques of research, style, and delivery; professional speech writing; extensive speaking practice.		
355	FREEDOM OF SPEECH	3 credits
Prerequisite: Admitted to a four year degree granting college except Summit. Discussion and analysis of the Constitution's free speech guarantee; contemporary issues in freedom of communication; role of the media in free speech issues.		
368	BASIC AUDIO & VIDEO EDITING	3 credits
Prerequisite: Admitted to a four year degree granting college except Summit, 280. A basic practical introduction to audio and video editing and the Avid Editing system in the MediaNet environment.		
372	SINGLE CAMERA PRODUCTION	3 credits
Prerequisite: Admitted to a four year degree granting college except Summit, 280; prerequisite or co-requisite: 368. It covers both theory and practice of digital video and helps develop professional skills in lighting, usage of lenses, visual composition, and sound recording for Single Camera applications.		
375	WEB PRODUCTION	3 credits
Prerequisite: Admitted to a four year degree granting college except Summit. Study of technological change and innovation in media with particular emphasis on multi-media design and production.		
378	T: MEDIA HISTORY/GENRE	3 credits
Prerequisite: Admitted to a four year degree granting college except Summit. In-depth study of topics in media history and genre. Repeatable with a change in topic (9 credits maximum).		
384	COMMUNICATION RESEARCH	3 credits
Prerequisites: Admitted to a four year degree granting college except Summit, 102, 115 (with a grade of C or better); completion of General Education Math Requirement. Fundamental concepts of communication research methods, and the analysis, application, and interpretation of data in communication and media operations.		
388	HISTORY OF BROADCASTING	3 credits
Prerequisite: Admitted to a four year degree granting college except Summit, 102. Growth of broadcasting in America; historical evolution of radio, television, and cable industries; contributions of inventors, entrepreneurs and talent.		
396	PROGRAM & AUDIENCE ANALYSIS	3 credits

Prerequisite: Admitted to a four year degree granting college except Summit, 102, prerequisite or co-requisite: 384. Analysis of broadcast audiences in program acquisition and scheduling. Examination of programming processes, philosophies, scheduling and promotions.

398 HONORS PROJECT PREPARATORY 1 credits

Prerequisite: junior standing, honors students only. This course prepares honors students to begin work on their senior honors project. Students will learn how to do background research, literature reviews, work with human subjects, and School of Communication requirements. At the end of the semester, students will have their proposal ready for submission to the Honors College.

400 HISTORY OF JOURNALISM: AMERICA 3 credits

Prerequisite: Admitted to a four year degree granting college except Summit. A review and analysis of the historical evolution of journalism in America, focusing primarily on newspapers, magazines, radio, television.

403 PUBLIC RELATIONS STRATEGIES 3 credits

Prerequisite: Admitted to a four year degree granting college except Summit. Selected communication theories used to analyze and implement effective public relations programs with emphasis placed upon research, planning, promotional messages and evaluation of program.

404 PUBLIC RELATIONS CASES 3 credits

Prerequisite: Admitted to a four year degree granting college except Summit. Prerequisite or corequisite: 7600:403. Continuation of 403. Application of principles of public relations profession in an actual organizational setting.

405 MEDIA COPYWRITING 3 credits

Prerequisite: Admitted to a four year degree granting college except Summit, 309. Selected communication theories and research techniques used to plan, write and analyze commercial messages. Emphasis will be placed on selection of audience, medium, appeal, writing style and evaluation of efforts.

406 CONTEMPORARY PUBLIC RELATIONS 3 credits

Prerequisite: Admitted to a four year degree granting college except Summit. Study and practical application of communication concepts, theories and skills relevant to public relations programs in businesses and nonprofit organizations

408 WOMEN, MINORITIES & NEWS 3 credits

Prerequisite: Admitted to a four year degree granting college except Summit, 300. Study of images in U.S. news, along with the power women and minorities have as decision-makers in the news industry.

410 JOURNALISM MANAGEMENT 3 credits

Prerequisite: Admitted to a four year degree granting college except Summit. This course is designed to educate students in the management of journalistic operations, including the magazine and newspaper industries.

416	NEW MEDIA WRITING	3 credits
Prerequisite: Admitted to a four year degree granting college except Summit, 300. This class will look at how today's professionals practice on-line publishing. Students will work on writing and reporting skills needed in this new media.		
417	NEW MEDIA PRODUCTION	3 credits
Prerequisites: Admitted to a four year degree granting college except Summit; 416 or permission. Covers practical application of software to create on-line multimedia documents and explores design ideas for New Media Journalism content.		
420	MAGAZINE WRITING	3 credits
Prerequisites: Admitted to a four year degree granting college except Summit, 300, 308. An advanced writing course designed to develop the specialized researching, reporting, and writing skills needed in consumer and specialized business magazines today.		
425	COMMRCL ELECTRONIC PUBLISHING	3 credits
Prerequisites: Admitted to a four year degree granting college except Summit, 300. Explore basic principles of magazine publishing in its broad definition, layout, type and typography, paint production of magazines.		
435	COMMUNICATION IN ORGANIZATIONS	3 credits
Prerequisites: Admitted to a four year degree granting college except Summit, 345 or permission. Overview of theories and approaches for understanding communication flow and practices in organizations, including interdepartmental, networks, superior-subordinate, formal and informal communication.		
436	ANALYZING ORGANIZ COMMUNICA	3 credits
Prerequisites: Admitted to a four year degree granting college except Summit; 344, 384 and 435, or permission. Methodology for in-depth analysis and application of communication in organizations; team building; conflict management, communication flow. Individual and group projects; simulations.		
437	TRAINING METHODS-COMMUNICATION	3 credits
Prerequisites: Admitted to a four year degree granting college except Summit; 345 or permission. Principles and concepts in the design and delivery of communication training programs; integration of theory and methodology; presentation skills; matching methods and learner needs.		
438	HEALTH COMMUNICATION	3 credits
Prerequisite: Admitted to a four year degree granting college except Summit. The course presents an overview of health communication theory and research issues in interpersonal, small group, organizational, public relations, and mass media contexts.		
439	INDP STUDY: COMMUNICATION	1-12 credits

(May be repeated for a total of 12 credits) Prerequisites: Admitted to a four year degree granting college except Summit, permission of faculty. Directed independent readings, research, projects and productions. Written proposal must be submitted before permission is granted. Appropriate documentation of work required.

446 WOMEN, MINORITIES & MEDIA 3 credits

Prerequisite: Admitted to a four year degree granting college except Summit. Examination of the media's portrayal of white women and people of color and the roles of media decision-makers as powerful counterparts to these images.

450 ST: COMMUNICATION 3 credits

(May be repeated for a total of nine credits) Prerequisite: Admitted to a four year degree granting college except Summit. Special interest topics in mass communication, journalism, or communication, supplementing courses listed in University Bulletin. See department for current listing of offerings.

454 THEORY OF GROUP PROCESSES 3 credits

Prerequisite: Admitted to a four year degree granting college except Summit. Group communication theory and conference leadership as applied to individual projects and seminar reports.

457 PUBLIC SPEAKING IN AMERICA 3 credits

Prerequisite: Admitted to a four year degree granting college except Summit. Survey and critical analysis of major speakers, speeches and speech movements in American history. Examines how style and content of American speaking influenced events and reflected their times.

459 LEADERSHIP & COMMUNICATION 3 credits

Prerequisite: Admitted to a four year degree granting college except Summit. Theories of leadership and communication across public, organizational, small group, interpersonal, and political contexts. Assessments tools provided. Guest speakers.

462 ADVANCED MEDIA WRITING 3 credits

Prerequisites: Admitted to a four year degree granting college except Summit; 280, 300, 387 or equivalent. Practical applications of script writing principles and techniques, focusing on the skills and discipline required to finish an entire script.

468 ADVANCED AUDIO & VIDEO EDITING 3 credits

Prerequisite: Admitted to a four year degree granting college except Summit, 280, 368, 372. A study of film and video editing. It provides practical experience and exposure to the various creative approaches and techniques of film / video editing.

470 ANALYSIS OF PUBLIC DISCOURSE 3 credits

Prerequisite: Admitted to a four year degree granting college except Summit. Identifies principal textual and contextual elements of public discourse and presents various theories and models to be applied in studying rhetorical acts.

471	THEORIES OF RHETORIC	3 credits
Prerequisite: Admitted to a four year degree granting college except Summit. Study of key figures in history of rhetorical theory, stressing interrelationships among theories of rhetoric, intellectual climates and social climates.		
475	POLITICAL COMMUNICATION	3 credits
Prerequisite: Admitted to a four year degree granting college except Summit. Students explore the relationship between politicians, citizens, and media. Topics include media coverage, campaign technologies, advertising, debates, engagement, rhetoric, and attitudes. Theories and methodologies discussed		
480	COMMUNICATION INTERNSHIP	1-8 credits
(May be repeated for a total of eight credits) Prerequisites: Admitted to a four year degree granting college except Summit, 24 credits in departmental courses, 2.5 overall GPA, and permission. Provides student with supervised experience and on-the-job training. Written permission must be obtained from the School prior to the term for which credit is to be received.		
481	FILM AS ART: INTR TO FILM FORM	3 credits
Prerequisite: Admitted to a four year degree granting college except Summit. A study of the role and function of Cinematography, Editing, Sound, and Mise-en-scene as they shape the meaning of the film, within the context of the traditional / non-traditional narratives and the documentary structure.		
485	HONORS PROJ: COMMUNICATION	3 credits
Prerequisites: 398, admitted to a four year degree granting college except Summit, approval of honors preceptor. Independent study project leading to completion of honors research, creative or service project.		
486	BROADCAST SALES & MGMT	3 credits
Prerequisite: Admitted to a four year degree granting college except Summit, 7384. Prerequisite or Co-requisite: 396. Using simulation and case history techniques, this course examines the sales and decision-making processes of a broadcast station.		
490	W: COMMUNICATION	1-3 credits
(May be repeated for a total of six credits) Prerequisite: Admitted to a four year degree granting college except Summit. Group study or group projects investigating a particular phase of media not covered by other courses in curriculum.		
493	PRODUCTION PRACTICUM	3 credits
Prerequisites: Admitted to a four year degree granting college except Summit, permission. Practical application of writing, directing, management, recording, and editing skills in problems in electronic media production.		

Course Details (7800)

100	EXPERIENCING THEATRE	3 credits
Experience the theatre as a live, dynamic art form through an exposure to and participation in University productions.		
103	THEATRE ORIENTATION	0 credits
Orientation to the information and strategies necessary to aid new theatre students in their understanding of the field of theatre.		
108	INTRO: VISUAL ARTS OF THEATRE	3 credits
Introduction to the design theory of scenic, costume, lighting and imagery of the theatre. The course includes the application of these principles to multimedia.		
145	MOVEMENT TRAINING	3 credits
Specialized physical training for the actor.		
151	VOICE & DICTION	3 credits
Speech improvement as it specifically applies to the stage. This course is concerned with the proper techniques and principles of vocal production in their practical application to stage performance.		
170	INTRO TO ACTING FOR NON-MAJORS	3 credits
Introduction to Acting for Non-majors is a course designed for the beginning student to develop an understanding of basic acting techniques.		
172	ACTING I	3 credits
Introductory fundamentals of acting through the investigation of the body as an instrument for the stage, improvisation and basic scene study.		
262	STAGE MAKEUP	3 credits
Theory and practice in the application of stage makeup from juvenile to character. Lecture/Lab.		
263	SCENE PAINTING	3 credits
The development of skills and knowledge of stage scenic painting required for the theatre designer and technician. Laboratory required.		
264	PLAYSCRIPT & PERFORM ANALYSIS	3 credits

		An introduction to various methods of how to read and analyze a play script for theatre production, utilizing theories and tools from Aristotle to today.
265	BASIC STAGECRAFT	3 credits
		Basic stagecraft including equipment, construction and handling of two-dimensional scenery and theatrical hardware. Laboratory required.
274	DIGITAL TECHNOLOGY FOR THEATRE	3 credits
		Hands-on exploration of theories and methods used in electronic development of promotional and creative materials. Activities include still and motion image capture, editing and distribution.
300	THEATRE ORG & PROD MGMT	3 credits
		Study of successful methods of theatre organization and production stage management of professional and non-professional performing arts operations.
301	INTRO TO THEATRE THROUGH FILM	3 credits
		Prerequisite: 3400:210 or 3400:221. A study of the Theatre with emphasis on its cultural and social influences on our society. Does not meet the Humanities requirement for Theatre majors.
306	STAGE COSTUME DESIGN	3 credits
		Prerequisites: 108, 264. Introduction to basic costume construction techniques, organization and maintenance of wardrobe for theatrical performance. Lab required.
335	HIST OF THTR & DRAMA LIT I	3 credits
		Prerequisite: 100. The history and theory of dramatic literature and theatre practices from the Greeks through the Restoration, including select non-western theatre traditions.
336	SCENIC DESIGN	3 credits
		Prerequisites: 108, 264. The theory of scene design and imagery of the theatre. The course may include the application of these principles to other media.
345	THE AUDITION PROCESS	3 credits
		Course presents skills, knowledge and experiences in the audition process.
351	ADVANCED VOICE & MOVEMENT	3 credits
		Prerequisites: 145, 151. Advanced training in movement techniques and vocal work, integrating the performer's physical and vocal instrument.
355	STAGE LIGHTING DESIGN	3 credits
		Prerequisites: 100, 265. The art and technique of stage lighting design: light plotting, color theory, and optical effects.
370	DIRECTING I	3 credits

Prerequisites: 100, 172, 264. Emphasizes fundamentals of play directing, including responsibilities of director, stage nomenclature, play selection, analysis, and rehearsal techniques.		
373	ACTING II	3 credits
Prerequisite: 172. Continuation of 172. Further emphasis on the psychology of the actor and development of performing techniques through scene study.		
374	ACTING III	3 credits
Prerequisite: 373. Further in-depth actor training with emphasis on the language and interpretation of classic plays including Shakespeare.		
403	ST: THEATRE ARTS	1-4 credits
(May be repeated as different subject areas are covered, but no more than 10 credits may be applied toward B.A. degree) Prerequisite: permission. Traditional and nontraditional topics in theatre arts, supplementing courses listed in the General Bulletin.		
421	MUSICAL THEATRE PRODUCTION	3 credits
Designed to make the theatre student aware of the total creative process involved in mounting a stage musical.		
435	HIST OF THTR & DRAMA LIT II	3 credits
Prerequisite: 335. The history and theory of dramatic literature and theatre practices from the eighteenth century through the present, including select non-western theatre traditions.		
436	STYLES OF SCENIC DESIGN	3 credits
Prerequisite: 336. Theatrical styles and periods in scenic design and scenography.		
455	CREATING PERFORMANCE	3 credits
(May be repeated for a total of six credits.) This course introduces devising processes, improvisation, ensemble work, and physical theatre techniques appropriate to the preparation of practical performance projects from sources other than a conventional play.		
461	DIRECTING II	3 credits
Prerequisite: 370. Emphasizes fundamentals of play directing, including responsibilities of director, stage nomenclature, play selection, analysis, and rehearsal techniques.		
467	CONTEMPORARY THEATRE STYLES	3 credits
A detailed examination of representative plays of the contemporary theatre with an emphasis on plays of the 1980s and 1990s.		
471	SENIOR SEMINAR	1 credits

Course Details (7810)

100	PROD LAB-DESIGN/TECHNOLOGY	1 credits
Prerequisite: permission of instructor. (May be repeated for a total of 12 credits) Provides student with practical experience in technical aspects of theatre. *Required of all theatre majors. Majors are required to enroll in at least one credit production lab every semester they are in residence.		
110	PERFORMANCE LAB	1 credits
(May be repeated for a total of 12 credits) Prerequisites: permission of instructor. Provides student with practical performance experience theatre productions. *Required of all theatre majors.		
200	PROD LAB-DESIGN/TECHNOLOGY	1 credits
Prerequisite: permission of instructor. (May be repeated for a total of 12 credits) Provides student with practical experience in technical aspects of theatre. *Required of all theatre majors. Majors are required to enroll in at least one credit production lab every semester they are in residence.		
210	PERFORMANCE LABORATORY	1 credits
(May be repeated for a total of 12 credits) Prerequisites: permission of instructor. Provides student with practical performance experience in theatre productions. *Required of all theatre majors.		
300	PROD LAB-DESIGN/TECHNOLOGY	1 credits
Prerequisite: permission of instructor. (May be repeated for a total of 12 credits) Provides student with practical experience in technical aspects of theatre. *Required of all theatre majors. Majors are required to enroll in at least one credit production lab every semester they are in residence.		
310	PERFORMANCE LABORATORY	1 credits
(May be repeated for a total of 12 credits) Prerequisites: permission of instructor. Provides student with practical performance experience in theatre productions. *Required of all theatre majors.		
400	PROD LAB-DESIGN/TECHNOLOGY	1 credits
Prerequisite: permission of instructor. (May be repeated for a total of 12 credits) Provides student with practical experience in technical aspects of theatre. *Required of all theatre majors. Majors are required to enroll in at least one credit production lab every semester they are in residence.		
410	PERFORMANCE LABORATORY	1 credits
(May be repeated for a total of 12 credits) Prerequisite: permission of instructor. Provides student with practical performance experience in theatre productions. *Required of all theatre majors.		

Course Details (7900)

103	ORIENTATION FOR DANCE	0 credits
Orientation to the dance program and field. Must be taken by all dance majors in their first semester of study. Dance Orientation is a degree requirement and is offered on a credit/noncredit basis.		
115	DANCE AS AN ART FORM	2 credits
Survey of dance for novice observer: aesthetics, philosophies, methods of training. Lecture and discussion of readings, viewing of film, videotape and live performances.		
119	MODERN I	2 credits
(May be repeated for a total of four credits) Exploring the basic principles of modern dance with an emphasis on body alignment and muscular awareness.		
120	MODERN II	2 credits
Prerequisite: permission or grade of B or better for one semester in 7900:119. (May be repeated for a total of four credits) Continuation of 119. Increasing movement vocabulary, muscular strength and coordination of modern dance.		
124	BALLET I	2 credits
(May be repeated for a total of four credits) Emphasis on body placement, muscular awareness.		
125	BALLET II	2 credits
Prerequisite: permission or grade of B or better for one semester of 7900:124. (May be repeated for a total of four credits) Continuation of 124. Basic exercises of classical ballet.		
130	JAZZ DANCE I	2 credits
(May be repeated for a total of four credits.) Basic jazz dance technique and jazz dance origins.		
144	TAP DANCE I	2 credits
(May be repeated for a total of four credits.) Basic tap dance technique and terminology.		
145	TAP DANCE II	2 credits
(May be repeated for a total of four credits.) Prerequisite: permission or a grade of B or better for one semester in 7900:144 Tap I. Refinement of tap technique and stylistic range of tap dance.		
150	BALLROOM DANCE I	1 credits

(May be repeated for a total of four credits.) Introduction to the basic patterns and techniques of major ballroom dances.

200 VIEWING DANCE 3 credits

Prerequisite: 3400:210 or 3400:221. To explore dance as an art form through experiential activities, dance literature, film and live performance for non-dance majors.

219 MODERN III 2 credits

(May be repeated for a total of 4 credits.) Prerequisite: permission or a grade of B or better for one semester in 7900:120 Modern II. Continuation of 120. Introduction to current modern dance styles and technique.

220 MODERN IV 2 credits

(May be repeated for a total of 4 credits.) Prerequisite: permission or a grade of B or better for one semester in 7900:219 Modern III. Continuation of 219. Application of basic modern dance theory of current modern dance styles and techniques.

224 BALLET III 3 credits

(May be repeated for a total of 6 credits.) Prerequisite: permission or a grade of B or better for one semester in 7900:125 Ballet II. Continuation of 125. Emphasis on barre and developing strength.

225 BALLET IV 3 credits

Prerequisite: Permission or grade of B or better for one semester in 7900:224. Continuation of 224. Emphasis on the increase of strength and flexibility. (May be repeated for a total of twelve credits)

230 JAZZ DANCE II 2 credits

(May be repeated for a total of 4 credits.) Prerequisite: permission or a grade of B or better in 7900:130 Jazz I. Continuation of basic jazz technique and stylistic range of jazz dance.

403 ST: DANCE 1-4 credits

(May be repeated as different subject areas are covered, but no more than 10 credits may be applied toward B.A. degree) Traditional and non-traditional topics in dance, supplementing courses listed in General Bulletin.

Course Details (7910)

101	CLASSICAL BALLET ENSEMBLE	1 credits
By audition only. Participation in rehearsal and preparation for public performance of classical ballet repertoire. **Course may be repeated for credit. Total credit for graduation may not exceed 12 credits. All courses are by audition only.		
102	CHARACTER BALLET ENSEMBLE	1 credits
By audition only. Participation in rehearsal and preparation for public performance of character ballet repertoire. **Course may be repeated for credit. Total credit for graduation may not exceed 12 credits. All courses are by audition only.		
103	CONTEMPORARY DANCE ENSEMBLE	1 credits
By audition only. Participation in rehearsal and preparation for public performance of contemporary dance repertoire. **Course may be repeated for credit. Total credit for graduation may not exceed 12 credits. All courses are by audition only.		
104	JAZZ DANCE ENSEMBLE	1 credits
By audition only. Participation in rehearsal and preparation for public performance of jazz dance repertoire. **Course may be repeated for credit. Total credit for graduation may not exceed 12 credits. All courses are by audition only.		
105	MUSICAL COMEDY ENSEMBLE	1 credits
By audition only. Participation in rehearsal and preparation for public performance of dance production numbers in a musical comedy. **Course may be repeated for credit. Total credit for graduation may not exceed 12 credits. All courses are by audition only.		
106	OPERA DANCE ENSEMBLE	1 credits
By audition only. Participation in rehearsal and preparation for public performance of dance sequences in an opera. **Course may be repeated for credit. Total credit for graduation may not exceed 12 credits. All courses are by audition only.		
107	EXPERIMENTAL DANCE ENSEMBLE	1 credits
By audition only. Participation in rehearsal and preparation for public performance of avant-garde dances. **Course may be repeated for credit. Total credit for graduation may not exceed 12 credits. All courses are by audition only.		
108	CHOREOGRAPHERS WORKSHOP	1 credits

By audition only. Participation in rehearsal and preparation for public performance of student dances. **Course may be repeated for credit. Total credit for graduation may not exceed 12 credits. All courses are by audition only.

109 ETHNIC DANCE ENSEMBLE 1 credits

By audition only. Participation in rehearsal and preparation for public performance of ethnic dance repertoire. **Course may be repeated for credit. Total credit for graduation may not exceed 12 credits. All courses are by audition only.

110 PERIOD DANCE ENSEMBLE 1 credits

By audition only. Participation in rehearsal and preparation for public performance of dances from specific historical periods such as the Renaissance or Baroque eras. **Course may be repeated for credit. Total credit for graduation may not exceed 12 credits. All courses are by audition only.

111 TOURING ENSEMBLE 1 credits

By audition only. Participation in rehearsal and preparation for public performance of any dances prepared for touring purposes. **Course may be repeated for credit. Total credit for graduation may not exceed 12 credits. All courses are by audition only.

112 DANCE PRODUCTION ENSEMBLE 1 credits

By permission only. Participation in technical assistance, preparation and performance of student dance productions: theory and laboratory. **Course may be repeated for credit. Total credit for graduation may not exceed 12 credits. All courses are by audition only.

113 DANCE ORGANIZATIONS: WORKSHOP 1 credits

By permission only. Participation in a dance workshop as volunteer, participant and/or presenter that forwards and augments the student's dance education and networking skills.

200 BFA AUDITION 0 credits

Prerequisite: 7910:201 or permission. Passing the BFA Audition is a requisite for becoming a BFA dance major. It is also a degree requirement. It may not be taken more than twice. Offered on a credit/noncredit basis.

201 FRESHMAN JURY & INTERVIEW 0 credits

The passing of the Freshman Jury and interview is a requisite for becoming a BA dance major. It is also a degree requirement. Students may take the Freshman Jury and Interview the following semester if failed the first time. It may not be taken more than twice. Offered on a credit/non credit basis.

Course Details (7915)

101	DANCE SOMATICS: YOGA	1 credits
Prerequisite: 7900:120 or 125, or 219 or 220 or 224 or 225 or 7920:122 or 222 or 228 or 229 or 322 or 328 or 329 or 422 Exploration of alternative movement disciplines aimed at increasing body-mind awareness and dancer health. Must be taken by dance majors in first two years of study.		
102	DANCE SOMATICS: PILATES	1 credits
Prerequisite: 7900:120 or 125, or 219 or 220 or 224 or 225 or 7920:122 or 222 or 228 or 229 or 322 or 328 or 329 or 422. Exploration of alternative movement disciplines aimed at increasing body-mind awareness and dancer health. Must be taken by dance majors in first two years of study.		
103	DANCE SOMATICS: ALEXANDER TECH	1 credits
Prerequisite: 7900:120 or 125, or 219 or 220 or 224 or 225 or 7920:122 or 222 or 228 or 229 or 322 or 328 or 329 or 422. Exploration of alternative movement disciplines aimed at increasing body-mind awareness and dancer health. Must be taken by dance majors in first two years of study.		
104	DANCE SOMATICS: GYROKINESIS	1 credits
Prerequisite: 7900:120 or 125, or 219 or 220 or 224 or 225 or 7920:122 or 222 or 228 or 229 or 322 or 328 or 329 or 422. Exploration of alternative movement disciplines aimed at increasing body-mind awareness and dancer health. Must be taken by dance majors in first two years of study.		
111	T: WORLD DANCE	1 credits
May be repeated for a total of six credits. Prerequisite: 7900:120 or 7900:125, or higher levels of ballet or modern dance technique. Exploration of various dance genres from world and historical traditions.		
403	ST: DANCE SOMATIC	1-3 credits
(Repeatable with a change in topic for a total of six credits) Prerequisite: 7900:120 or 7900:125, or higher levels of ballet or modern dance technique. Projects or classes in Somatic Dance not covered by present course offerings.		

Course Details (7920)

116	PHYSICAL ANALYSIS FOR DANCE I	2 credits
Prerequisites: 3100:200, 201; 7400:133. Required for all dance majors. Recommended to be taken in the first two years. Lecture/laboratory. Skeletal and muscular analysis for dance technique.		
117	PHYSICAL ANALYSIS FOR DNCE II	2 credits
Prerequisite: 116. Support systems, conditioning injury prevention, rehabilitation, nutrition for dancers.		
122	BALLET V	4 credits
(May be repeated for a total of 16 credits) Prerequisite: permission or a grade of B+ or better for one semester in 7900:225. Theory, vocabulary, structure, placement. Concurrent enrollment in pointe class recommended.		
141	POINTE I	2 credits
(May be repeated for a total of eight credits) Prerequisite: permission or 122 or above. Corequisite: 122 or above. Reinforcement of selection principles for pointe shoes, proper holding of foot muscularly and control of heel while ascending and descending from pointe.		
222	BALLET VI	4 credits
(May be repeated for a total of 16 credits) Prerequisite: permission or a grade of B+ or better for one semester in 7920:122. Continuation of 122, expanding theory on vocabulary, structure, placement. Concurrent enrollment in pointe class recommended.		
228	MODERN V	3 credits
(May be repeated for a total of 6 credits.) Prerequisite: Permission or a grade of B or better for one semester in 7900:220 Modern IV. The intermediate study of modern dance styles and technique through the application of more complex movement theories, rhythmic patterns, and improvisational studies.		
229	MODERN VI	3 credits
(May be repeated for a total of 6 credits.) Prerequisite: permission or a grade of B or better for one semester in 7920:228 Modern V. Introduction to intermediate theory of current modern dance styles and techniques.		
241	POINTE II	2 credits
(May be repeated for a total of 12 credits) Prerequisite: permission or a grade of B or better for one semester in 7920:141. Corequisite: 7920:222 or above. Continuation of 141. Continued development of strength, coordination and endurance of holding foot muscularly. Further development and emphasis on principles of weight transfer.		

246	TAP DANCE III	2 credits
(May be repeated for a total of 4 credits.) Prerequisite: permission or a grade of B or better for one semester in 7900:145 Tap II. Advancement of tap dance technique through the use of complex combinations, syncopation, routines, and styles.		
274	DIGITAL TECHNOLOGY FOR DANCE	3 credits
Hands-on exploration of theories and methods used in electronic development of promotional and creative materials. Activities include still and motion image capture, editing, and distribution.		
316	CHOREOGRAPHY I	2 credits
Prerequisite: Permission or 7900:220 Modern IV or above. Theoretical and practical introduction to principles of choreography: space, time, energy.		
317	CHOREOGRAPHY II	2 credits
Prerequisite: 316 or permission. Continuation of 316. Emphasis on musical choices and finding movement specific to the individual choreographer.		
320	MOVEMENT FUNDAMENTALS	2 credits
Beginning study of Labanotation method of recording movement, and Laban's theories of effort, space, and shape.		
321	RHYTHMIC ANALYSIS - DANCE	2 credits
Prerequisites: 32 credits and 7900:120 or 7900:125, or higher levels of ballet or modern dance technique, or permission. Lecture and application of basic rhythmic structures used in dance and dance instruction.		
322	BALLET VII	4 credits
(May be repeated for a total of 24 credits.) Prerequisite: Permission or a grade of B+ or better for one semester in 7920:222 Ballet VI. Continuation of 222. Emphasis on technique, style, line. Concurrent enrollment in point class is recommended.		
328	MODERN VII	3 credits
(May be repeated for a total of 12 credits.) Prerequisite: permission or a grade of B or better in 7920:229 Modern VI. Refinement and stylization of modern techniques for performance of modern dance.		
329	MODERN VIII	3 credits
(May be repeated for a total of 12 credits.) Prerequisite: permission or a grade of B or better in 7920:328 Modern VII. Application of advanced modern dance techniques and styles.		
333	PARTNERING	2 credits
Prerequisite: 7920:122 or 222 or 322 or 422 and 7920:228 or 299 or 328 or 329 or permission. An exploration of the fundamentals of dance partnering: weight sharing, centering, safety via contact improvisation.		

334	PAS DE DEUX I	2 credits
(May be repeated for a total of eight credits) Prerequisites: permission; concurrent enrollment in a pointe class recommended. Provides student with the beginning understanding and practice of pas de deux.		
347	TAP DANCE IV	2 credits
(May be repeated for a total of 8 credits.) Prerequisite: Permission or a grade of B or better for one semester in 7920:246 Tap III. Advanced tap combinations, styles, routines.		
351	JAZZ DANCE III	2 credits
(May be repeated for a total of 4 credits.) Prerequisite: permission or a grade of B or better for one semester in 7900:230 Jazz II. Intermediate jazz dance technique and the jazz eras.		
361	LEARNING THEORY FOR DANCE	2 credits
Prerequisites: 7900:115, 224 (or higher levels of ballet technique); 3750:100 or 5100:220; or permission of instructor. Theories of learning and their use in teaching dance.		
362	INST STRATEGIES FOR DANCE	2 credits
Prerequisite: 361. Practical work and development of teaching skills in dance for public and private settings.		
403	ST: DANCE	1-4 credits
(May be repeated. No more than 10 credits may be applied toward the B.F.A. or B.A.) Prerequisite: Permission. Traditional and nontraditional topics in dance.		
416	CHOREOGRAPHY III	2 credits
Prerequisite: 317 or permission. Continuation of 317. Emphasis on form and choreographic analysis.		
417	CHOREOGRAPHY IV	2 credits
Prerequisite: 416 or permission. Continuation of 416. Expanding into group choreography and longer works.		
422	BALLET VIII	4 credits
(May be repeated for a total of 32 credits.) Prerequisite: permission or a grade of B+ or better for one semester in 7920:322 Ballet VII. Continuation of 322. Advanced level of technique. Concurrent enrollment in pointe class recommended.		
432	HISTORY OF BALLET	2 credits
Prerequisite: 7900:115 or 7900:200 or permission. Development of ballet beginning with its origins in French Courts through the Romantic and Diaghilev Eras to current times.		
433	DANCE HISTORY: 20TH CENTURY	2 credits

Prerequisite: 7900:115 or 7900:200 or permission. Development of modern dance as an art form and the further evolution of ballet and concert dance.

445 DANCE PHILOSOPHY & CRITICISM 3 credits

Prerequisites: 3400:210 or 221, 3600:101, 7900:115 and 7920:432 or 433. Review of historical dance philosophies, performance, attributes, choreographic and theatrical elements of dance and criticism.

451 JAZZ DANCE IV 2 credits

(May be repeated for a total of eight credits.) Prerequisite: permission or a grade of B or better for one semester in 7920:351 Jazz III. Advanced jazz dance technique and styles for the professional dancer.

461 SEM & FLD EXP: DANCE EDUC 2 credits

Prerequisite: 362. Supervised observation and teaching experience in dance education in the field. Concurrent enrollment in 7910:108 Choreographers' Workshop.

462 PROFSSNL ISSUES IN DANCE EDUC 2 credits

Prerequisite: 461. An examination of current issues and goals in dance education. Concurrent enrollment in 7910:108 Choreographers' Workshop.

471 SENIOR SEMINAR 1 credits

Prerequisite: 274; senior standing or permission. A forum to develop professional skills to make the transition to a dance career: artistic, academic, or business.

490 W: DANCE 1-3 credits

(May be repeated for a total of eight credits) Prerequisite: Permission. Group study/projects investigating a particular field of dance not covered by other courses.

497 INDP STUDY: DANCE 1-3 credits

(May be repeated for a total of four credits) Prerequisite: Permission and prearrangement with instructor. Individual creative project, research or readings in dance with faculty advisor.

498 HONORS RESEARCH PROJECT: DANCE 1-3 credits

(May be repeated for a total of six credits) Prerequisite: Approval of department preceptor. Creative project or research supervised by dance preceptor.

College of Engineering

- General Engineering (4100)
- Chemical Engineering (4200)
- Corrosion Engineering (4250)
- Civil Engineering (4300)
- Electrical Engineering (4400)
- Computer Engineering (4450)
- Mechanical Engineering (4600)
- Mechanical Polymer Engineering (4700)
- Biomedical Engineering (4800)
- Aerospace Systems Engineering (4900)

Course Details (4100)

101	TOOLS FOR ENGINEERING	3 credits
<p>Corequisite: 3450:221. Introduction to engineering. Free hand, engineering, and CAD drawing. Introduction to computer programming, computer applications including word processing, spreadsheets, data base. Introduction to engineering economics. Required for Chemical, Civil, and Electrical Engineering majors.</p>		
110	WOMEN IN ENGR SEM & PEER GROUP	1 credits
<p>Beginning women students may elect this one-credit course that provides an overview of the career opportunities for women in engineering. The course utilizes dynamic speakers to reinforce the student's educational and career choices. Small groups meet weekly, led by an upper-class engineering student. This interactive peer environment fosters personal development for first-year students.</p>		
120	IDEA ENGINEERING SEMINAR	1 credits
<p>Explore career opportunities/personal development in all fields of engineering, assist with transition from high school to engineering studies. Of particular interest to underrepresented groups.</p>		
180	ENGINEERING DESIGN	1 credits
<p>See department for course description.</p>		
200	FRESHMAN INTERNSHIP	0 credits
<p>Elective for cooperative education student who has completed freshman year. Mandatory for students in the Aerospace Systems Engineering Program, with possibility of waiver if transferring into Program after first year or if student needed to begin mathematics sequence with Precalculus Mathematics in freshman year . Practice in industry and comprehensive written reports of this experience.</p>		
201	ENERGY & ENVIRONMENT	2 credits
<p>Interactions between energy production, consumption and environment. Case studies. Not for engineering, chemistry or physics major.</p>		
202	ATMOSPHERIC POLLUTION	2 credits
<p>Causes of atmospheric pollution and technical economic and social problems. Technical solutions. Case studies. Not for engineering, chemistry or physics majors.</p>		
203	ENVIRONMENTL SCI & ENGINEERING	3 credits
<p>Science and engineering fundamentals required to understand environmental issues and alternative solutions. Not for engineering, chemistry, or physics majors.</p>		
300	COOPERATIVE EDUCATION WORK PER	0 credits

Elective for cooperative education student who has completed sophomore year. Practice in industry and comprehensive written reports of this experience.

301	COOPERATIVE EDUCATION WORK PER	0 credits
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Required for cooperative education student only. Practice in industry and comprehensive written reports of this experience. Offered spring semester of third year.

302	COOPERATIVE EDUCATION WORK PER	0 credits
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Required for cooperative education student only. Practice in industry and comprehensive written reports of this experience. Offered fall semester of fourth year.

400	ENGINEERING MGMT & LEADERSHIP	3 credits
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This is a case and discussion oriented course that examines the role of the engineering manager as a leader, problem solver, strategic planner, and a well-rounded business minded individual.

403	COOPERATIVE EDUCATION WORK PER	0 credits
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Required for cooperative education student only. Practice in industry and comprehensive written reports of this experience. Offered summer after fourth year.

Course Details (4200)

101	TOOLS FOR CHEMICAL ENGINEERING	2 credits
Corequisites: 110 and 3450:149. Introduction to Chemical Engineering. Basic concepts of engineering practice. Introduction to professional level software including process simulation, control design, spreadsheets, mathematical computation, and process flow graphics.		
110	PROJECT MGMT & TEAMWORK I	1 credits
Teams freshmen through senior Chemical Engineering undergraduates on a design team working on a realistic chemical engineering problem. Develops teamwork, communications, presentation, project management and information technology skills.		
121	CHEMICAL ENGINEERING COMPUTA	2 credits
Prerequisites: 101 or permission. Computer programming language, flowcharting, introductory simulation and introductory numerical analysis.		
194	CHEMICAL ENGINEERING DESIGN I	1 credits
Prerequisites: 4200:101 and permission. Individual or group project under faculty supervision. Introduction to chemical engineering processes and modern design technology. Written report is required.		
200	MATERIAL & ENERGY BALANCES	4 credits
Prerequisites: 121, 3450:221 and 3150:151. Introduction to material, energy balance calculations applied to solution of chemical problems.		
210	PROJECT MGMT & TEAMWORK II	1 credits
Prerequisite: 110. Teams freshmen through senior Chemical Engineering undergraduates on a design team working on a realistic chemical engineering problem. Develops teamwork, communications, presentation, project management and information technology skills.		
225	EQUILIBRIUM THERMODYNAMICS	4 credits
Prerequisites: 200 and 3450:223. Second law of thermodynamics, entropy, applications, comprehensive treatment of pure and mixed fluids. Phase and chemical equilibria, flow processes, power production and refrigeration processes covered.		
294	CHEMICAL ENGINEERING DESIGN II	1-2 credits
Prerequisites: 121, 200 and permission. Supervised individual or group design project. Analysis of multi-unit process using simulation and/or experimental techniques. Written report and oral presentation required.		
305	MATERIALS SCIENCE	2 credits

Prerequisites: 3150:153 and 3650:292 and junior standing. Structure, processing and properties of metals, ceramics and polymers. Special topics, such as composites, corrosion and wear.

310 PROJECT MGMT & TEAMWORK III 1 credits

Prerequisite: 210. Teams freshmen through senior Chemical Engineering undergraduates on a design team working on a realistic chemical engineering problem. Develops teamwork, communications, presentation, project management and information technology skills.

321 TRANSPORT PHENOMENA 3 credits

Prerequisites: 200 and 3450:335. Constitutive equations for momentum, energy and mass transfer. Development of microscopic and macroscopic momentum, energy and mass transfer equations for binary systems. Analogy and dimensionless analysis. Problems and applications in unit operations of chemical engineering.

330 CHEMICAL REACTION ENGINEERING 3 credits

Prerequisite: 225 and 3450:335. Nonequilibrium processes including chemical reaction mechanisms, rate equations and ideal reactor design applied to homogeneous and heterogeneous systems.

341 PROCESS ECONOMICS 2 credits

Prerequisite: 200. Theory and application of engineering economy to multi-unit processes. Cost estimation, time value of money, profit analysis, decision making and introduction to project management.

351 FLUID & THERMAL OPERATIONS 3 credits

Prerequisite: 321. Applications of fluid mechanics including piping, pumping, compression, metering, agitation and separations. Applications of heat transfer by conduction, convection and radiation to design of process equipment.

353 MASS TRANSFER OPERATIONS 3 credits

Prerequisites: 225 and C- or above in 200. Theory and design of staged operations including distillation, extraction, absorption. Theory and design of continuous mass transfer devices.

360 CHEMICAL ENGINEERING LAB 3 credits

Prerequisites: 353; corequisites: 330, 351. Comprehensive experiments in combined heat and mass transfer, thermodynamics, and reaction kinetics. Data collection and analysis. Comprehensive reports in various formats.

394 CHEMICAL ENGINEERING DSGN III 1-3 credits

Prerequisites: 351 and permission. Supervised individual or group design project. Develop, evaluate and design feasible solutions to an open-ended problem pertinent to chemical engineering. Written report and oral presentation required.

408 POLYMER ENGINEERING 3 credits

Prerequisite: permission or senior standing. Commercial polymerization, materials selection and property modification, polymer processing, applied rheology and classification of polymer industry.		
410	PROJECT MGMT & TEAMWORK IV	1 credits
Prerequisite: 310. Teams freshmen through senior Chemical Engineering undergraduates on a design team working on a realistic chemical engineering problem. Develops teamwork, communications, presentation, project management and information technology skills.		
421	FUND OF MULTIPHASE TRNSPT PHENO	3 credits
Prerequisite: 4200:321 or equivalent, and instructor permission. Major topics to be covered: Intraphase and interphase transport phenomena, Transport phenomena in multiphase fluids, Transport in Porous Media, Transport in Gas/liquid pipe flows, Computational Fluid Dynamics of multiphase systems, and Case studies.		
435	PROCESS ANALYSIS & CONTROL	3 credits
Prerequisites: 330, 353. Response of simple and chemical processes and design of appropriate control systems.		
438	ENERGY INTEGRATION	3 credits
Prerequisite: 351. This course uses Pinch Design formalism to present the core energy integration tools for energy and area targeting, and tools for integration of reactors, distillation columns, and heat pumps.		
441	PROCESS DESIGN I	3 credits
Prerequisites: 330, 351, 353 and 341. Application of chemical engineering fundamentals to the design of a multi-unit process. Emphasis on use of process simulators. Advanced equipment design, oral and written communication skills and teamwork.		
442	PROCESS DESIGN II	3 credits
Prerequisite: 441 or permission. Teaches methods of process conceptualization, preliminary optimization. Specific topics include: chemical process design methodology, design heuristics, energy integration, and process safety review.		
450	CHEMICAL PRODUCT DESIGN & DEVL	3 credits
Prerequisite: senior standing or permission. Introduction to the strategies and processes used to design and development new chemical products from the idea stage through manufacturing.		
461	SOLIDS PROCESSING	3 credits
Prerequisites: 321 and 353 or permission. Comprehensive problems in sedimentation, fluidization, drying and other operations involving mechanics of particulate solids in liquid and gas continua.		
462	INDUSTRIAL ENZYME TECHNOLOGY	3 credits

Prerequisites: 330 and 351. Application of chemical engineering to biological processes involving enzymes and their industrial applications. Special emphasis given to the kinetics, control, design, and process economics aspects.		
463	POLLUTION CONTROL	3 credits
Prerequisite: 353 or permission. Air and water pollution sources and problems. Engineering aspects and methodology.		
466	DIGITIZED DATA & SIMULATION	3 credits
Prerequisite: permission. Data acquisition and analysis by digital devices, digital control applications and design.		
470	ELECTROCHEMICAL ENGINEERING	3 credits
Prerequisites: 321, 330. Chemical engineering principles as applied to the study of electrode processes and to the design of electrochemical reactors. Topics include electrochemical thermodynamics, cell polarizations, Faraday's Laws, electrode kinetics, transport processes in electrochemical systems, current distributions, reactor design, experimental methods, commercial processes, and batteries and fuel cells.		
471	FUEL ENGINEERING	3 credits
Prerequisite: 330 or permission of instructor. Topics related to clean liquid and solid fuels technology. Special emphasis given to design, system analysis, environmental impacts, and novel technologies.		
472	SEPARATION PROCES-BIOCHEM ENGR	3 credits
Introduction to the separation and purification techniques pertinent to bioprocesses, with emphasis on engineering considerations for large scale operations.		
473	BIOREACTOR DESIGN	3 credits
Prerequisite: 330 or instructor's consent. Design, analysis, and scale-up of bioreactors for various biological processes.		
488	CHEMICAL PROCESSES DESIGN	3 credits
Prerequisite: Permission of instructor or senior standing. Process design and analysis of emerging chemical technologies. Case studies, such as in-situ processing, alternative fuels, bioremediation, and engineering materials manufacture.		
494	DESIGN PROJECT	3 credits
Prerequisite: Permission or senior standing. Individual design project pertinent to chemical engineering under faculty supervision. Written report and oral presentation required.		
496	T: CHEMICAL ENGINEERING	1-3 credits

(May be repeated for a total of six credits) Prerequisite: permission. Topics selected from new and developing areas of chemical engineering, such as electrochemical engineering, coal and synthetic fuels processing, bioengineering, simultaneous heat and mass transfer phenomena and new separation techniques.

497	HONORS PROJECT	1-3 credits
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(May be repeated for a total of six credits) Prerequisite: special permission. Individual creative project pertinent to chemical engineering culminating in undergraduate thesis, supervised by faculty member of the department.

499	RES PROJ: CHEMICAL ENGINEERING	1-3 credits
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(May be repeated for a total of six credits) Prerequisite: permission. Individual research project pertinent to chemical engineering under faculty supervision. Report required.

Course Details (4250)

101	TOOLS FOR CORROSION ENGR	2 credits
Prerequisite: Permission. Corequisite: 3450:149. Introduction to corrosion engineering. Basic concepts of engineering practice. Introduction to professional level software needed for later studies.		
105	MATERIALS SC FOR CORROSION ENG	2 credits
Prerequisite: 101. Corequisite: 3150:153. Structure, processing and properties of metals, ceramics, and polymers.		
194	DESIGN PROJECT 1	1 credits
Prerequisite: Permission. Individual design project in Corrosion Engineering that is supervised by a faculty member.		
200	MAT & ENER BALANCS FR CORR ENG	4 credits
Prerequisites: 101 or equivalent, 3450:221, 3150:151. Introduction to material and energy balance calculations applied to the solution of chemical processing and corrosion engineering problems.		
294	DESIGN PROJECT 2	1-2 credits
Prerequisite: Sophomore Standing. Individual design project in Corrosion Engineering that is supervised by a faculty member.		
300	FUNDAMENTALS OF AQUEOUS CORR	3 credits
Prerequisites: 105, 3150:264, 4200:225, 4300:201. Corequisites: 301, 4300:202, 4400:320. Fundamentals of aqueous corrosion will cover corrosion tendencies, processes and rates at low temperature. An in-depth understanding of the aqueous corrosion mechanisms, materials performance, and the effects of stress will be covered.		
301	AQUEOUS CORROSION LAB 1	1 credits
Prerequisites: 101, 105, 3150:265. Corequisite: 300. Laboratory exercises will reinforce the fundamentals of aqueous corrosion.		
305	AQUEOUS CORROSION PREVENTION	3 credits
Prerequisite: 300. Corequisite: 306. This course presents a functional approach to controlling and preventing aqueous corrosion based upon engineering methodologies to proper materials selection, organic coatings, chemical inhibitors, and electrochemical protection. Applications in specific industries will be covered.		
306	AQUEOUS CORROSION LAB 2	1 credits

Prerequisite: 301. Corequisite: 305. Laboratory exercises will reinforce the fundamentals of aqueous corrosion.

310 FUNDAMENTALS OF DRY CORROSION 3 credits

Prerequisite: 300. Corequisite: 311. Fundamentals of dry/hot corrosion will cover corrosion tendencies, processes and rates at high temperature. An in-depth understanding of the high temperature corrosion mechanisms, materials performance, and the effects of stress will be covered.

311 HIGH TEMPERATURE CORROSION LAB 1 credits

Prerequisite: 306. Corequisite: 310. Laboratory exercises will reinforce the fundamentals of high temperature corrosion.

340 CORROSION PREVENTION (DRY) 3 credits

Prerequisite: 305. Corequisite: 310, 4600:380. This course presents a functional approach to controlling and preventing dry corrosion based upon engineering methodologies to proper materials selection, inorganic coatings, and passivation. Applications in specific industries will be covered.

394 DESIGN PROJECT 3 1-3 credits

Prerequisite: Junior Standing. Individual design project in Corrosion Engineering that is supervised by a faculty member.

440 CORROSION MANAGEMENT 1 3 credits

Prerequisite: 340, 4600:380. This course applies the lessons learned in corrosion prevention and laboratory courses to corrosion case studies. Solutions to existing corrosion problems will be developed based on the analysis of test data.

441 CORROSION MANAGEMENT 2 3 credits

Prerequisite: 440. This course focuses on understanding the financial, political, social and health implications of corrosion, corrosion mitigation, and corrosion prevention. Solutions to existing corrosion problems will be developed based on economic, political, social, and health issues. The course will also cover methodologies for preserving assets and reducing operation costs.

494 DESIGN PROJECT 4 1-3 credits

Prerequisite: Senior Standing. Individual design project in Corrosion Engineering that is supervised by a faculty member.

497 HONORS PROJECT 1-3 credits

Prerequisites: Senior standing in Honors College or permission. Individual research or design project in Corrosion Engineering that is supervised by a faculty member. Conducted in accordance with the Honors College requirements.

Course Details (4300)

101	TOOLS FOR CIVIL ENGINEERING	3 credits
Corequisites: 3450:149. Introduction to Civil Engineering. Basic concepts of engineering practice including communication skills, problem solving skills, professional ethics/goals, and teamwork. Introduction to professional level software including CAD, graphics presentation, spreadsheets, database, and mathematical computation.		
120	INTRO: CIVIL ENGR DESIGN	2 credits
Introduction of basic design concepts in different civil engineering disciplines. Students learn to gain experience through hands-on mini projects by working in a team under supervision.		
201	STATICS	3 credits
Corequisites: 3450:222 and 3650:291. Forces, resultants, couples; equilibrium of force systems; distributed forces; centers of gravity, analysis of simple structures; moments of inertia; kinematics.		
202	INTRO: MECHANICS OF SOLIDS	3 credits
Prerequisite: 201. Axial force, bending moment diagrams, axial stress and deformation; stress-strain diagrams; torsion; flexural stress; flexural shearing stress; compound stresses; indeterminate beams; columns.		
230	SURVEYING	3 credits
Basic tools and computations for surveying: measurement of distance elevation and angles; traverse surveys. Laboratory field practice.		
306	THEORY OF STRUCTURES	3 credits
Prerequisite: 202. Stability and determinacy; statically determinate trusses and frames; approximate frame analysis influence lines; moving loads; virtual work analysis; moment area theorem; theorem of three moments; moment distribution for continuous beams and frames.		
313	SOIL MECHANICS	3 credits
Prerequisite: 202 or permission. Physical properties of soils. Soil water and groundwater flow. Stresses, displacements, volume changes, consolidation within a soil mass. Soil strength. Compaction.		
314	GEOTECHNICAL ENGINEERING	3 credits
Prerequisite: 313. Limiting equilibrium within a soil mass. Design of retaining walls, bulkheads, shallow, deep foundation systems. Slope stability. Laboratory study of soil properties and behavior.		
321	INTRO: ENVIRONMENTAL ENGINEER	3 credits

Prerequisites: 3150:153, 3450:222. Basic principles of ecosystems, microbiology, chemical reactions, and material flow that environmental engineers use to protect our water, air and soil.

323 WATER SUPPLY & POLLUT CNTRL 3 credits

Prerequisite: 321. Water and wastewater characteristics, criteria, quantities and distribution. Water and wastewater treatment process flowsheets, design and operation. Wastewater and residue disposal.

341 HYDRAULIC ENGINEERING 4 credits

Prerequisite: 4600:310. This course will focus on presentation and application of fundamental hydraulic principles in both the classroom and laboratory. Examination of flow in pipelines and pipe networks, pumps and pumping stations, hydrology, flow in open channels, groundwater hydraulics, and design of hydraulic structures will be studied. Emphasis will be placed on proper application of principles, data interpretation and analysis, problem solving, and report writing.

361 TRANSPORTATION ENGINEERING 3 credits

Prerequisite: junior standing. Introductory survey of transportation topics including transportation planning requirements and techniques, introduction to design of highways, airports and railroads and introduction to traffic engineering.

380 ENGINEERING MATERIALS LAB 3 credits

Prerequisite: 202. Fundamentals and applications of materials science, mechanics of solids and study of laboratory instrumentation and standard techniques in testing of engineering materials.

390 CIVIL ENGINEERING SEMINAR 1 credits

A civil engineering seminar discussing contemporary issues in civil engineering, our professional and ethical responsibilities, and our impact and interaction with society.

401 STEEL DESIGN 3 credits

Prerequisite: 306. Tension, compression members; open web joists; beams; bearing plates; beam-columns; bolted, welded connections.

403 REINFORCED CONCRETE DESGN 3 credits

Prerequisite: 306. Ultimate strength analysis and design; compression steel; diagonal tension; stirrups; development length; one-way slab; T-beams; two-way slabs; columns; isolated and combined footings.

404 ADVANCED STRUCTURAL DESIGN 3 credits

Prerequisites: 401, 403. Composite design; plate girders; plastic design; cantilever retaining walls; torsion in R/C members; deflection of R/C members; continuous girder bridge design.

407 ADVANCED STRUCTURAL ANALYSIS 3 credits

Prerequisite: 306. Energy methods for beams and frames. Stiffness and flexibility formulations for framed structures using classical and matrix methods. Introduction to stability and plastic analysis. Warping-Torsion behavior of beams. Analysis of axisymmetric circular plates and membrane shells.

414	DESIGN OF EARTH STRUCTURES	3 credits
Prerequisite: 314 or permission. Design of earth structures: dams, highway fills, cofferdams, etc. Embankment construction techniques, quality control, embankment analysis, instrumentation, foundation soil stabilization, seepage analysis and control. Design problem. Graduate students will perform more advanced analysis and design.		
418	SOIL & ROCK EXPLORATION	3 credits
Prerequisite: 314 or permission. Site exploration criteria and planning. Conventional boring, sampling and in situ testing methods. Theory and application of geophysics and geophysical methods including seismic, electrical resistivity, gravity, magnetic and radioactive measurements. Air photo interpretation.		
423	CHEMISTRY FOR ENVIRNMNTL ENGRS	3 credits
Prerequisite: One year of college chemistry. General, physical, organic biochemistry, equilibrium, and colloid chemistry concepts applied to Environmental Engineering. Concepts are used in water and wastewater laboratory.		
424	WATER-WASTEWATER LABORATORY	1 credits
Corequisite: 323 or permission. Analysis of water and wastewater.		
426	ENVIRONMENTAL ENGINEERING DSGN	3 credits
Prerequisite: 323. An introduction to the physical, chemical and biological processes utilized in the treatment of water and wastewater, with design parameters emphasized.		
427	WATER QUALITY MODELING & MGMT	3 credits
Prerequisite: 323. Analysis and simulation of the physical, chemical and biochemical processes affecting stream quality. Development of management strategies based upon the application of water quality modeling techniques to environmental systems.		
428	HAZARDOUS & SOLID WASTES	3 credits
Prerequisite: senior standing or permission of instructor. Hazardous and solid waste quantities, properties and sources are presented. Handling, processing, storage and disposal methods are discussed with non-technical constraints outlined.		
441	HYDRAULIC DESIGN	3 credits
Prerequisite: 341. Collection and critical evaluation of hydraulic data related to actual design problem selected by instructor. Development and analysis of design alternatives. Preparation of reports.		
443	APPLIED HYDRAULICS	3 credits
Prerequisite: 341. Review of design principles: urban hydraulics, stream channel mechanics, sedimentation, coastal engineering.		
445	HYDROLOGY	3 credits

Prerequisite: 341. Surface water hydrology, water cycle, precipitation, evaporation, stream flow. Principles of hydrologic systems and their analysis. Hydrologic simulation, reservoir planning and water supply studies. Analysis of rainfall and floods.		
448	HYDRAULICS LABORATORY	1 credits
Prerequisite: 341. Introduction to laboratory and field devices for hydraulic measurements. Reduction and presentation of hydraulic data. Individual assignments of model studies of hydraulic structures.		
450	URBAN PLANNING	2 credits
Historical developments in urban planning; urban planning techniques and patterns; comprehensive master planning studies; planning regulations; design problems; class projects; class project presentation.		
451	COMPUT MTHDS OF STRCTRL ANALYS	3 credits
Prerequisite: 306. Computer methods of structural analysis. Finite element software and interactive graphics. Stiffness concepts and matrix formulation of beams; modeling of simple and complex structural systems; vibration analysis using microcomputers.		
452	STRUCTURAL VIBRATNS & EARTHQKS	3 credits
Prerequisite: 306. Vibration and dynamic analysis of structural systems with one, two, or more degrees of freedom; beams, frames, buildings and bridges. Numerical methods of analysis. Elastic-plastic systems. Earthquake analysis of design. Earthquake codes.		
453	OPTIMUM STRUCTURAL DESIGN	3 credits
Prerequisite: 306. Basic concepts in structural optimization. Mathematical programming methods including unconstrained minimization, multidimensional minimization and constrained minimization.		
454	ADVANCED MECHANICS OF MATERIAL	3 credits
Prerequisite: 202 or equivalent. Three-dimensional state of stress and strain analysis. Unsymmetric bending of straight and curved members with shear deformation. Beams on elastic foundations. Saint Venant's torsional problems. Inelastic analysis of bending and torsional members. Introduction to energy method. Instability behavior of prismatic members.		
463	TRANSPORTATION PLANNING	3 credits
Prerequisite: 361. Theory and techniques for development, analysis and evaluation of transportation system plans. Emphasis on understanding and using tools and professional methods available to solve transportation planning problems, especially in urban areas.		
464	HIGHWAY DESIGN	3 credits
Prerequisite: 361. Study of modern design of geometrical and pavement features of highways. Design problem and computer use. Graduate students will produce a more complete design.		
465	PAVEMENT ENGINEERING	3 credits

Prerequisite: 361. Theories of elasticity, of viscoelasticity and of layered systems as applied to pavements. Pavement materials characterization; pavement design, pavement restoration for rigid and flexible pavements.		
466	TRAFFIC ENGINEERING	3 credits
Prerequisite: 361. Vehicle and urban travel characteristics, traffic flow theory, traffic studies, accidents and safety, traffic signs and marking, traffic signal planning, traffic control and transportation administration.		
467	ADVANCED HIGHWAY DESIGN	3 credits
Prerequisites: 464, autoCAD capability, or permission. Computer-aided geometrical design of highways including survey data input, digital terrain modeling, cross-section templates, horizontal and vertical roadway design, earthwork computations, and advanced topics.		
468	HIGHWAY MATERIALS	3 credits
Prerequisites: 361, 380 or permission. Properties of aggregates, manufacture and properties of portland cement concrete, properties of asphaltic materials, design and testing of hot mix asphalt pavement mixes and of surface treatments. Laboratory preparation of specimens and determination of properties. Graduate student requirement: Graduate students will be required to perform an additional eight-hour asphalt laboratory (Absorption recovery of asphalt from solution) and to prepare a paper on a highway materials topic.		
471	CONSTRUCTION ADMINISTRATION	3 credits
Prerequisite: senior standing or permission. Organization for construction, construction contracts, estimating, bidding, bonds and insurance. Construction financial management and supervision of construction, scheduling using critical path method.		
472	CONSTRUCTION ENGINEERING	3 credits
Prerequisite: senior standing or permission. Construction equipment selection and management. Techniques of various engineering construction operations including blasting, tunneling, concrete framework and dewatering.		
473	CONSTRUCTION MATERIALS	2 credits
Prerequisites: 380, 4200:305. Composition, structure and mechanical behavior of structural materials such as concrete, wood, masonry, plastics and composite materials. Discussion of applications and principles of evaluating material properties.		
474	UNDERGROUND CONSTRUCTION	2 credits
Prerequisite: 314. Description of practices and techniques of underground construction. Selection of proper method for individual job. Design of underground openings, support systems and linings.		
480	RELIABILITY-BASED DESIGN	4 credits
Prerequisite: 3470:261 and senior standing. Probability concepts in civil engineering. Risk analysis and reliability based design.		
482	SPEC PRO: CIVIL ENGINEERING	1-3 credits

Prerequisites: senior standing and permission. Directed individual or group research or study in student's field of interest. Topic subject to approval by adviser.

490	SENIOR DESIGN IN CIVIL ENGINEE	3 credits
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Prerequisites: senior standing. A civil engineering design project that emphasizes interdisciplinary teamwork to solve a substantial, currently relevant problem.

497	HONORS PROJECT	1-3 credits
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(May be repeated for a total of six credits) Prerequisite: senior standing in Honors Program. Individual creative project or design relevant to civil engineering, supervised by faculty member of the department.

Course Details (4400)

td class="ttl">UG RESEARCH III: ELEC ENGR

101	TOOLS FOR ELECTRICAL ENGR	3 credits
Corequisite: 3450:221 or 149. Orientation to degree programs and design practice in electrical and computer engineering. Introduction to computer applications and resources for engineering studies.		
230	CIRCUITS I LABORATORY	1 credits
Corequisite: 231. Computation, computer aided circuit analysis, circuit theorem confirmation, report writing to include data analysis and reduction, introduction to electrical measurements.		
231	CIRCUITS I	3 credits
Corequisite: 4400:230, 3450:223, 3650:292. DC and AC linear circuit analysis. Operational amplifier circuits. Loop and nodal analyses. Network theorems. Phasor techniques, steady-state AC power, three-phase systems.		
301	UG RESEARCH I: ELEC ENGR	1 credits
Prerequisite: completion of 101 or 4450:101, 4450:220, 230, 231, 330, and 332 with a combined average grade of 3.0 or higher, and permission. Research project, supervised by faculty member of the department; requires oral research presentation and written report.		
302	UG RESEARCH II: ELEC ENGR	1 credits
Prerequisite: 301 or 4450:301, and permission. Research project, supervised by faculty member of the department; requires oral research presentation and written report.		
303		1 credits
Prerequisite: 302 or 4450:302, and permission. Research project, supervised by faculty member of the department; requires oral research presentation and written report to the department, and presentation of work in a research venue outside the department.		
304	UG RESEARCH IV: ELEC ENGR	1 credits
(May be repeated. May not be applied to degree requirements.) Prerequisite: 303 or 4450:303, and permission. Research project, supervised by faculty member of the department; requires oral research presentation and written report.		
307	BASIC ELECTRICAL ENGINEERING	4 credits
Prerequisite: 3650:292; corequisite: 3450:335. Covers fundamental aspects of electrical circuits, electronics and electrical machinery. Not open to an electrical or computer engineering major.		
309	DESIGN PROJ SEM: ELECTRICAL ENG	1 credits

Prerequisite: 340. Introduction to servomechanisms and feedback. Modeling and response of feedback control systems. Stability of linear systems. Experiments include analog simulation and basic servomechanism.

381 ENERGY CONVERSION 4 credits

Prerequisites: 332. Corequisite: 353. Nonelectrical to electrical energy conversions and vice versa: thermal, chemical, solar. Fundamentals of electromechanical energy conversion. Principles of operation of transformers, commutator machines, induction and synchronous machines.

401 SENIOR DESIGN PROJ I: ELEC ENG 2 credits

Prerequisites: Senior standing; 309; Completion of 341, 354, 361, and 371 with a combined average grade of 2.0 or higher. Design and preparation phase of an engineering project. Requires project presentation, approval of a written proposal, and ordering of required parts.

402 SENIOR DESGN PROJ II: ELEC ENG 3 credits

Prerequisite: 401. Implementation and evaluation phases of an engineering design project. Requires a project presentation and report.

434 ACTIVE CIRCUITS 3 credits

Prerequisite: 340. Applications of operational amplifiers including bilinear transfer functions, scaling, cascade design, biquad circuits, lowpass, high pass, bandpass-filters, Butterworth and Chebyshev response, sensitivity, delay filters, frequency transformations, ladder design, simulated element design, leapfrog simulation and switched-capacitors.

441 DIGITAL COMMUNICATION 3 credits

Prerequisite: 341. Introduction to digital communication theory and systems; coding of analog and digital information; digital modulation techniques. Introduction to information theory.

445 WIRELESS COMMUNICATIONS 3 credits

Prerequisite: 441. Theory and analysis of wireless communication systems, wireless propagation, multiple access, modulation, demodulation, multipath channel characterization, diversity, cellular and PCS services and standards.

447 RANDOM SIGNALS 3 credits

Prerequisite: 340. Applications of set theory, discrete and continuous sample spaces; probability, random variables, distribution functions, density functions, stochastic processes, random signals, system function, power spectrum and correlation functions.

448 OPTICAL COMMUNICATION NETWORKS 3 credits

Prerequisites: 360. Optical waveguides and integrated components. Optical transmitters and receivers. Optical communications network design.

451 ELECTROMAGNETIC COMPATIBILITY 3 credits

Prerequisite: 360. Introduction to electromagnetics, electromagnetic compatibility, crosstalk and effects on computers, communication lines and systems.		
453	ANTENNA THEORY	3 credits
Prerequisite: 354. Theory of EM radiation. Wire antennas, arrays, receiving antennas, reciprocity. Integral equations for induced currents, self and mutual impedances. Equivalence principle, radiation from aperture antennas.		
455	MICROWAVES	4 credits
Prerequisite: 354. Dynamic fields, Maxwell's equation and wave equations. Field analysis of wave guides, microwave components, techniques and systems.		
461	OPTICAL ELECTR & PHOTO DEVICES	3 credits
Prerequisites: 360. Lightwave engineering, photonic principles and optical electronic device technology.		
469	INTRO: SENSORS & ACTUATORS	3 credits
Prerequisite: senior standing or permission. Introduction to the theory and practice of sensors and actuators; sensing and actuation technologies; performance, and interfacing.		
472	CONTROL SYSTEMS II	4 credits
Prerequisite: 371. Sampled-data control system analysis and design. Discrete-time representation of sampled-data systems. Cascade, feedforward and state-variable compensation techniques. Digital computer implementation.		
481	MODERN POWER SYSTEMS	3 credits
Prerequisite: 381. Introduction to electricity utility load flow, faulty analysis, stability, surge protection and relaying.		
483	POWER ELECTRONICS I	3 credits
Prerequisite: 332. Steady-state analysis and design of power electronic converters: AC/DC converters (rectifiers), DC/DC converters, DC/AC PWM and resonant converters, AC/AC converters and cycloconverters.		
484	PWR ELECTRON LAB & DESIGN PROJ	2 credits
Prerequisite: 483/583 or equivalent. Experiments on different types of power electronic converters: AC/DC, DC/DC, DC/AC, and AC/AC. Design project to include design, simulation, building, and testing of a power electronic circuit.		
485	ELECTRIC MOTOR DRIVES	3 credits
Prerequisite: 381. Application of electric machines, choice of motor for particular drive. Application of power semiconductor circuits in electric machinery.		
486	DYNAMICS OF ELECTRIC MACHINES	3 credits

See department for course description.

487	ELECTROMAGN DSGN OF ELEC MCHNS	3 credits
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See department for course description.

488	CONTROL OF MACHINES	4 credits
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See department for course description.

489	ELECTRIC AND HYBRID VEHICLES	3 credits
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Prerequisite: 3450:335 Basic principles of electric and hybrid vehicles. Characteristics of electric machines, internal combustion engines, transmissions, batteries, fuel cells, ultracapacitors. Vehicle control strategies, communication networks, and overall system integration.

498	ST: ELECTRICAL ENGINEERING	1-3 credits
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(May be taken more than once) Prerequisite: permission of department chair. Special topics in electrical engineering.

Course Details (4450)

101	TOOLS FOR COMPUTER ENGINEERING	3 credits
Corequisite: 3450:221 or 3450:149. Orientation to degree programs and design practice in electrical and computer engineering. Introduction to computer applications and resources for engineering studies.		
208	PROGRAMMING FOR ENGINEERS	3 credits
Prerequisite: 4400:101 or permission. Introduction to programming. Environment and tools. C programming language. Machine level data forms and organization.		
220	DIGITAL LOGIC DESIGN	4 credits
Corequisites: 4400:101 or 4450:101. Boolean algebra and simplification of logic functions. Combinational and synchronous sequential circuits. Laboratory projects include design of digital systems with hardware description language and simulation.		
301	UG RESEARCH I: COMP ENGR	1 credits
Prerequisite: completion of 101 or 4400:101, 220, 4400:230, 4400:231, 4400:330, and 4400:332 with a combined average grade of 3.0 or higher, and permission. Research project, supervised by faculty member of the department; requires oral research presentation and written report.		
302	UG RESEARCH II: COMP ENGR	1 credits
Prerequisite: 301 or 4400:301, and permission. Research project, supervised by faculty member of the department; requires oral research presentation and written report.		
303	UG RESEARCH III: COMP ENGR	1 credits
Prerequisite: 302 or 4400:302, and permission. Research project, supervised by faculty member of the department; requires oral research presentation and written report to the department, and presentation of work in a research venue outside the department.		
304	UG RESEARCH IV: COMP ENGR	1 credits
(May be repeated. May not be applied to degree requirements.) Prerequisite: 303 or 4400:303, and permission. Research project, supervised by faculty member of the department; requires oral research presentation and written report.		
309	DESIGN PROJECT SEM - COMP ENGR	1 credits
Prerequisites: Junior standing and permission. Project selection and proposal. Project specifications and alternative design. Professional ethics. Intellectual property. Societal impact issues in engineering design. Senior Design Project II presentations.		
320	COMPUTER SYSTEMS	3 credits

Prerequisite: 3460:209 or 4450:208, 4450:220 or 3450:208. Introduces the design and architecture of modern computer systems. Data and instruction representation. Conventional computer organization. Hardware and software design processes. The hardware/software interface.		
325	OPERATING SYSTEMS CONCEPTS	3 credits
Prerequisites: 320, 3460:210. Processes and threads. Process communication and resource sharing. Deadlock resolution. Memory management. File systems. Introduction to network operating systems.		
367	VLSI DESIGN	3 credits
Prerequisite: 4400:360. Digital logic circuits. Very large scale integration (VLSI) fabrication processes and layout design. Delay and power of digital circuits. Latches and flip-flops in VLSI. Memory design. System-level design issues. Design project.		
401	SENIOR DES PROJ I - COMP ENGR	2 credits
Prerequisites: Senior standing; 309; completion of 367, 420, 427 and 440 with a combined average grade of 2.0 or higher. Design and preparation phase of an engineering project. Requires project presentation, approval of a written proposal, and ordering of required parts.		
402	SENIOR DES PROJ II - COMP ENGR	3 credits
Prerequisite: 401. Implementation and evaluation phases of an engineering design project. Requires a project presentation and report.		
410	EMBEDDED SCIENTIFIC COMPUTING	3 credits
Prerequisites: 208 or 3460:209. Fixed point, floating point representation and coding. Processor/DSP implementations. Assemblers, C language semantics. Adapting scientific library routines for embedded use. Minimizing complexity. Ill-conditioned problems.		
415	SYSTEM SIMULATION	3 credits
Prerequisite: 4400:371 or 4450:440. Computer simulation of dynamic systems. Discrete system stability, linear multistep and Runge-Kutta methods, nonlinear systems, stiff systems, distributed systems and real-time computing.		
420	COMPUTER SYSTEMS DESIGN	3 credits
Prerequisite: 4450:320. Design of advanced processors at the microarchitecture level. Pipelining. Superscalar, vector and VLIW architectures. Instruction-level parallelism. Compiler support. Multiprocessor architectures.		
422	EMBEDDED SYSTEMS INTERFACING	3 credits
Prerequisites: 4450:208 or 3460:209. Corequisite: 4400:360. Microcontroller structures and embedded peripherals. Interfaces to physical environments. Software access to peripherals including timers, ADCs and DACs. Synchronous and asynchronous communications. Interrupts. Real-time operating systems.		
427	COMPUTER NETWORKS	3 credits

Course Details (4600)

165	TOOLS FOR MECHANICAL ENGR	3 credits
Corequisite: 3450:149. Personal computer DOS system, word processing, spreadsheet, computer-aided drafting, math calculating package, mechanical graphics, and introduction to mechanical engineering program and curriculum.		
203	DYNAMICS	3 credits
Prerequisite: 3450:222, 3650:291, 4300:201. Corequisite: 3450:223. Kinematics and kinetics of particles and rigid bodies. Principles of work, energy, momentum and impulse.		
260	ENGINEERING ANALYSIS I	2 credits
Prerequisite: 3450:222; corequisite: 3450:223. Introduction to numerical methods in mechanical engineering; applications of computer tools (MatLab).		
300	THERMODYNAMICS I	3 credits
Prerequisite: 3450:223. Corequisite: 3650:292. Basic concepts of thermodynamics. Pure substances, closed and open systems, the first and second laws of thermodynamics. Entropy, vapor power cycles and vapor compression refrigeration.		
301	THERMODYNAMICS II	2 credits
Prerequisites: 300 and 3450:335. Absorption refrigeration. Gas cycles. Thermodynamics of state, gas mixtures and gas-vapor mixtures. Combustion.		
305	THERMAL SCIENCE	2 credits
Prerequisite: 3450:223. Corequisite: 3650:292. Credit not allowed for both 300 and 305. Introduction to first and second laws of thermodynamics, perfect gas relationships, equations of state, cycle analysis. Introduction to conduction, convection and radiation heat transfer.		
310	FLUID MECHANICS I	2 credits
Prerequisites: 203 and 3450:335. Properties and behavior of gases and liquids at rest and in motion. Energy equation. Flow in conduits. Forces on body submerged in moving fluid. Dimensional analysis and similitude.		
311	FLUID MECHANICS II	3 credits
Prerequisite: 310. Navier-Stokes equations. The boundary layer. External viscous flows and potential flow. Fundamentals of compressible flow. Concepts of computational fluid dynamics.		
315	HEAT TRANSFER	3 credits

Prerequisites: 4600:310 or 4800:360; 4600:300; 4600:360 or 4800:220. Fundamentals of heat transfer by conduction, convection and radiation.		
321	KINEMATICS OF MACHINES	2 credits
Prerequisites: 165, 203. Displacements, velocities, accelerations and introduction to plan motion mechanisms. Introduction to design of gears, gear trains and cams.		
336	ANALY OF MECHANICAL COMPONENTS	3 credits
Prerequisite: 4300:202. Corequisite: 3450:335. Analysis of stress and strain at a point. Mohr's circles, shear centers, elastic instability. Stresses in thick and thin cylinders. Fatigue analysis.		
337	DESIGN OF MECHANICAL COMPON	3 credits
Prerequisites: 336. Application of stress analysis to design of fasteners, welds, springs, ball bearings and gears. Introduction to journal bearings and lubrication. Component design projects.		
340	SYSTEMS DYNAMICS & RESPONSE	3 credits
Prerequisites: 203, 3450:335. A unified approach to modeling, analysis, response and stability of engineering systems: analog, digital and hybrid computer simulation of interdisciplinary engineering problems are included.		
360	ENGINEERING ANALYSIS II	2 credits
Prerequisites: 260, 3450:335. Numerical methods of solution of mechanical engineering problems.		
380	MECHANICAL METALLURGY	2 credits
Prerequisites: 3150:153; corequisite: 4300:202. Structures of common metallic materials and study of their macroscopic mechanical behavior. Phase changes and heat treatment. Theories of failure.		
400	THERMAL SYSTEM COMPONENTS	3 credits
Prerequisites: 301, 311, 315. Performance analysis and design of basic components of thermal energy exchange and conversion systems. Components studied include heat exchangers, pumps, compressors, turbines and expansion engines.		
402	SENIOR SEMINAR	1 credits
Corequisites: 400, 441, 460, 401 and 461 or 4700:499. Students need further education in ethics, codes and standards, intellectual property, product liability, safety issues, technical writing, diversity, and job opportunities.		
410	HEATING & AIR CONDITIONING	3 credits
Prerequisites: 301 or permission. Corequisite: 315 or permission. Thermodynamics of gas mixtures. Design and selection of air conditioning equipment. Control of gas mixtures, heating, cooling and humidity.		
411	COMPRESSIBLE FLUID MECHANICS	3 credits

Prerequisites: 301 and 310. Subsonic and supersonic flow in nozzles, diffusers and ducts. One-dimensional reactive gas dynamics. Prandtl-Myer theory. Applications to design and analysis of compressors, turbines and propulsion devices.		
412	FUNDAMENTALS OF FLIGHT	3 credits
Prerequisite: 311. Introduction to basic aerodynamics, airplane performance, stability and control, astronautics and propulsion. Design considerations are emphasized.		
413	INTRODUCTION TO AERODYNAMICS	3 credits
Prerequisite: 311. Introduction of aerodynamic concepts; includes conformal transformations, theory of thin airfoils, two-dimensional airfoil theory, wings of finite span, lifting line theories, lumped vortex, vortex lattice, and panel methods.		
414	INTRO TO AEROSPACE PROPULSION	3 credits
Prerequisite: 311. Introduction to propulsion systems currently used in aerospace fields; propulsion principles for turbojets, turbofans, ramjets, chemical rockets, and electrical rocket propulsion.		
415	ENERGY CONVERSION	3 credits
Prerequisites: 301 or permission. Corequisite: 315 or permission. Topics from fields of internal combustion engines, cycle analysis, modern conversion devices.		
416	HEAT TRANSFER PROCESSES	3 credits
Prerequisite: 315 or permission. Analysis, design of extended surfaces. Natural convection and mixed convection, combined modes of heat transfer and heat transfer with phase changes.		
420	INTRO TO FINITE ELEMENT METHOD	3 credits
Prerequisite: 315 and 4300:202. Introduction to matrix and finite element methods. Stiffness and flexibility formulations in solid mechanics and thermal sciences. Basic finite element methods and its implementation.		
422	EXPERIMENTAL STRESS ANALYSIS I	3 credits
Prerequisite: 336 or permission. Experimental methods of determining stress or strain: brittle lacquer, strain gages, photoelasticity, full field techniques.		
430	MACHINE DYNAMICS	3 credits
Prerequisite: 321 or permission. Static and dynamic forces in machines, products of inertia, dynamic equivalence, flywheels. Balancing of rotating, reciprocating, cyclic plane motion. Computer simulation of transient mechanism dynamics, other topics in advanced dynamics.		
431	FUND OF MECHANICAL VIBRATIONS	3 credits
Prerequisites: 203 or permission and 3450:335 or permission. Undamped and forced vibrations of systems having one or two degrees of freedom.		

432	VEHICLE DYNAMICS	3 credits
Prerequisites: 203 or permission and 3450:335 or permission. Application of dynamic systems analysis techniques to road vehicles. Newtonian and Lagrangian methods. Tire/road interface. Ride characteristics, handling and stability. Digital simulation.		
440	SYSTEM DYNAMICS & CONTROL	4 credits
See department for course description.		
441	CONTROL SYSTEMS DESIGN	3 credits
Prerequisites: 340 or permission. Methods of feedback control design such as minimized error, root-locus, frequency domain. Compensation techniques. Multivariable and nonlinear design methods and computer-aided control design.		
442	INDUSTRIAL AUTOMATIC CONTROL	3 credits
Prerequisite: 441 or permission. Operation of basic control mechanisms. Study of mechanical, hydraulic, pneumatic, fluidic control systems, including application areas. Tuning of control devices for optimum performance of system. Case studies on control applications from industry, e.g. boilers, furnaces, process heaters.		
443	OPTIMZTN METHODS IN MECH ENG	3 credits
Prerequisite: 360 or permission. Development and method of solution of optimization problems in mechanical engineering. The use of dynamic programming and operational research methods for optimization including computer utilization and applications.		
444	ROBOT DESIGN, CONTROL & APPL	3 credits
Prerequisites: 321 or permission, 441 or permission. Robot design and control. Kinematic transformations, velocities and accelerations, path trajectories and dynamics, control and sensing in robotics. The automated factory with robot applications.		
450	INTRO: COMPUT FLUID FLW & CONV	3 credits
Prerequisites: 315 or permission, 360 or permission. Numerical modeling of fluid/thermal systems; numerical solution of the momentum and thermal boundary layer equations; flow simulation using advanced heat transfer/fluid/graphics packages.		
460	CONCEPTS OF DESIGN	3 credits
Prerequisite: 337. Design process. Creativity and inventiveness. Tools of decision making, engineering economics, reliability, optimization. Case studies.		
461	ME SENIOR DESIGN PROJECT I	2 credits
Corequisites: 400, 441, 460. Detailed senior design project. Design, feasibility, and cost analysis.		
462	PRESSURE VESSEL DESIGN	3 credits

Course Details (4700)

281	POLYMER SCI FOR ENGINEERS	2 credits
Prerequisites: 3150:151 and 3150:152. Chemical bonds and structure of organic molecules, polymer chain structure, amorphous and crystalline morphology and structural characterization, polymerization and copolymerization, experimental demonstrations, typical solid-state and flow properties.		
321	POLYMER FLUID MECHANICS	3 credits
Prerequisite: 4600:310 or equivalent. Rheological properties and flow characteristics of polymer fluid systems; non-Newtonian viscosity, viscoelasticity.		
381	POLY MORPH FOR ENGINEERS	3 credits
Prerequisites: 3150:151, 3650:292, 4600:380 or permission. Fundamental understanding of solid structure, crystallography and morphology, processed polymers, co-polymers and their blends.		
422	POLYMER PROCESSING	3 credits
Prerequisites: 321 and 4600:315 or equivalent. Polymer processing technology. Basic studies of flow in extrusion, molding, and other processing methods.		
425	INTRO: BLEND & COMP POLYRS	3 credits
Prerequisites: 4200:321 or 4300:341 or 4600:310 or permission. Nature of polymer blends and compounds and their applications. Preparation and technology using batch and continuous mixers, mixing mechanisms.		
427	MOLD DESIGN	3 credits
Prerequisites: 422 or permission. Molding methods to manufacture polymeric products. Machinery, materials, molds, equipment, computer-aided design.		
450	ENGR PROPERTIES OF POLYMERS	3 credits
Prerequisites: 281, 381 and 4600:336 or equivalent. Introductory course to engineering properties and processing of polymers. Analysis of mechanical tests of polymers in the glassy, rubbery, and fluid states. Product design. Concepts of rheology, rheometry and polymer processing.		
451	POLYMER ENGINEERING LAB	2 credits
Prerequisite: 321 and 4600:483. Corequisite: 422 or permission. Laboratory experiments on the rheological characterization of polymer melts, fabrication of engineering products, structural investigation of polymeric parts.		
497	HONORS PROJECT	2 credits

Prerequisite: Senior standing in the Honors Program. Individual creative project in mechanical polymer engineering, supervised by faculty member of the department. This course must be designed oriented if used in place of 4700:499.

499	POLYMER ENGR DESIGN PROJECT	2 credits
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Prerequisite: Senior standing and permission. Corequisite: 4600:400. Analysis and design of mechanical polymer systems.

Course Details (4800)

101	TOOLS FOR BIOMED ENGINEERING	3 credits
Corequisite: 3450:149. Introduction to Biomedical Engineering. Personal computers, word processing, spreadsheets, mathematical computational software and computer aided drafting.		
111	INTRO: BIOMEDICAL ENGR DESIGN	3 credits
Prerequisites: 101 or permission. Students will be introduced to the interdisciplinary nature of Biomedical Engineering research and design through the use of lectures, discussions, homework and design projects.		
201	BIOMED ENGR SOPHOMORE SEMINAR	1 credits
Prerequisites: 101, sophomore standing or above. A seminar format to allow students to learn about current research and careers in Biomedical Engineering. Topics in technical communications will also be covered.		
210	STATSTCL METHDS IN BIOMED ENGR	3 credits
See department for course description. **Course not approved in EN-98-01 per department (12-05-05).		
220	BIOMEDICAL COMPUTING	3 credits
Prerequisites: 101, 3450:223. Programming in BASIC and Visual Basic for data acquisition, analysis and display. Object-oriented programming using biomedical engineering examples. High-level processing and display techniques using MATLAB.		
305	INTRO: BIOPHYSICAL MEASUREMENTS	4 credits
Prerequisites: 101 and 4400:231 or 4400:307. Corequisite: 3100:202. Biomedical Engineering involves measurement of Physiological processes in living organisms. An understanding of the variety of instruments used and the limitations are introduced.		
310	MODEL & SIM OF BIOMED SYS	3 credits
Prerequisite: 3450:335. Modeling and simulation of physiological systems and their interactions with therapeutic devices, such as the artificial kidney.		
325	DESIGN OF MEDICAL DEVICES	3 credits

430	DESIGN OF MED IMAGING SYS	3 credits
Prerequisites: 3100: 200, 3650:292, 4400:343,353, 4800:305, or permission of instructor. Physical principles and engineering design of medical imaging systems, with emphasis on digital radiography, computed tomography, nuclear medicine, ultrasound and magnetic resonance.		
435	IMAGE SCIENCE	3 credits
Prerequisites: 3100:200, 3650:292, 4400:343 or by permission of instructor. Principles of image science, image performance parameters and image assessment techniques of medical imaging systems, with emphasis on digital radiography, tomographic imaging, ultrasound and magnetic resonance.		
437	PHYSICS OF MEDICAL IMAGING	3 credits
Prerequisites: 3100:200, 3650:292, 4400:353, 4800:305. Physical principles of medical imaging modalities with emphasis on the properties, generation mechanisms and interaction of radiation with matter, physics of the image formation and optimization.		
440	ADVANCED BIOMATERIALS	3 credits
Prerequisite: 400. The interactions between biomaterials and medical devices will be analyzed with respect to their potential fractionation of biological mechanisms.		
445	EXP TECH - BIOMAT TISSUE ENGR	3 credits
Prerequisite: 440. Laboratory experience that applies engineering concepts and practices to the analysis of biomaterials and tissue engineering.		
450	TISSUE ENGINEERING	3 credits
Prerequisites: 4800: 400, 365, 362, and 4800: 360 or 4200:321. This course will explore topics to successfully design tissue engineered devices. For advanced engineering students with a back ground in materials, mechanics, and transport phenomena.		
455	BIOTRANSPORT	3 credits
Prerequisites: 4800: 362 or 4200: 321, 4800: 220, 3100: 202. With the foundations of fluid, heat and mass transfer established, this course focuses on specific biological examples of transport phenomena.		
460	EXPERMNTL TECH IN BIOMECHANICS	3 credits
Prerequisites: 3150:153, 3450:335, 3650:292, 4600:203 or by permission of instructor. Principles of testing and measuring devices commonly used for biofluid and biosolid mechanics studies. Laboratories for demonstration and hands-on experience.		
464	MICROFLUIDICS FOR BIOMED ENGIN	3 credits

Prerequisites: 4800: 362 or 4200: 321 or 4800: 360. This course will discuss fundamental principles of single and two phase flow of biofluids in microfluidic devices, and present the applications of lab-on-a-chip systems in BME.

470	HUMAN FACTORS ENGINEERING	3 credits
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Reliability and human error, human capabilities and limitations, crew protection, display systems, controls and controlling actions, interface design principles, risk management, Safety and accident prevention.

485	ST: BIOMEDICAL ENGINEERING	1-3 credits
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Prerequisite: permission of advisor. Directed individual or group research or study in the student's field of interest. Topic subject to approval of advisor.

491	BIOMEDICAL ENGR DESIGN I	2 credits
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Prerequisite: 111. Corequisite: 305. The design process will be further discussed utilizing case studies and detailed biomedical engineering design projects.

492	BIOMEDICAL ENGR DESIGN II	2 credits
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Prerequisite: 491. The design process will be further discussed utilizing detailed biomedical engineering design projects. Projects will be required to be interdisciplinary in nature.

Course Details (4900)

165	TOOLS FOR AEROSPACE SYS ENGR	2 credits
Prerequisite: Permission. Corequisite: 3450:149. Computer applications, spreadsheets, CAD software, MATLAB, and introduction to aerospace engineering program and curriculum; outside speakers; project involving design and construction of small RC aircraft.		
166	AEROSPACE SYSTEMS PROJECT MGMT	1 credits
Prerequisite: 165. Teamwork and project planning; semester project involving continuation of design and construction of small RC aircraft in conjunction with SAE Aero Design.		
240	AEROSPACE SYSTEMS ENGR I	3 credits
Prerequisite: 3450:223. An introductory systems course focusing on systems thinking, systems engineering tools, reliability, life-cycle analysis and statistics.		
320	AEROSPACE SYSTEMS ENGR II	3 credits
Prerequisites: 240, 4600:340. An extended study of systems topics including linear programming, optimization, decision making, critical path scheduling, and verification.		
336	AEROSPACE STRUCTURES	3 credits
Prerequisites: 4300:202, 3450:335. Basic theory and methods for analysis and design of aerostructures are covered. Topics include torsion, shear flow, buckling, fracture, and fatigue of beams and plates.		
340	AVIONICS I	3 credits
Prerequisite: 4400:307. Electronics for aircraft applications. Amplifiers, filters, regulators, current sources, buffers, sensor and actuator circuits, transmitters, and receivers.		
380	AEROSPACE MATERIALS	3 credits
Prerequisites: 3150:151,152, 4300:202 or permission. Theory in science and application of materials for aerospace structures, macroscopic behavior of materials, order and disorder in mechanical behavior, evaluating and quantifying mechanical response.		
420	OBJECT ORIENTED DESIGN & MGMT	3 credits
Prerequisite: 320. An introduction to the area of object-oriented design and management of systems, including abstraction, inheritance, polymorphism, dynamic interactions, hierarchies, patterns, reflection, and distributed objects.		
440	AVIONICS II	3 credits

College of Education

- Cooperative Education (5000)
- Educational Foundations (5100)
- Early Childhood Education (5200)
- Middle Level Education (5250)
- Secondary Education (5300)
- Teaching and Training Technical Professionals (5400)
- Curriculum & Instruction (5500)
- General Education (5540)
- Physical Education (5550)
- Outdoor Education (5560)
- Health Education (5570)
- Educational Guidance and Counseling (5600)
- Special Education (5610)
- School Psychology (5620)
- Special Education Programs (5800)

Notes:

- Instructional Technology (5150) - Graduate-level courses only. See Graduate Bulletin.
- Educational Administration (K-12) (5170) - Graduate-level courses only. See Graduate Bulletin.
- Educational Administration (Higher Education) (5190) - Graduate-level courses only. See Graduate Bulletin.

Course Details (5000)

301

COOPERATIVE EDUCATION

0 credits

(May be repeated) For cooperative education students only. Work experience in business, industry or governmental agency. Comprehensive performance evaluation and written report required.

Course Details (5100)

150	DEMOCRACY & EDUCATION	3 credits
Based on an interdisciplinary inquiry, this course examines varied theories and practices of democratic education.		
200	INTRODUCTION TO EDUCATION	3 credits
Prerequisite: 13-15 sem. hrs. of specific GenEd courses; FBI/BCI background checks. Introduction to the teaching profession designed to explore the purposes of schools in society and what is required to be an effective teacher today. This course will include 10 field hours field observation in an urban setting.		
205	FUND EDUC COMPUTER SKILLS	1 credits
Elective Course: Computer skills for education majors with little or no computer experience. Includes word processing, databases, graphics and communications. Cannot substitute for any required course.		
210	CHARACTERISTICS OF LEARNERS	3 credits
Prerequisite: Completion of all College of Education program admission requirements; Corequisite: 211. Describe cognitive, psychosocial, physical, language, and moral development of learners Pre-K through adult. Identifies learner needs, roles of teachers and schools in fostering optimal development. (10 hours of field experience included.)		
211	TEACHING & LEARNING STRATEGIES	3 credits
Prerequisite: Completion of all College of Education admission requirements; Corequisite: 210. From course content and activities, students will recognize, select, and practice various instructional models. Students will acquire and apply appropriate learning and motivational strategies. (10 hours of field experience included.)		
220	EDUCATIONAL PSYCHOLOGY	3 credits
Prerequisite: 13-15 sem. hrs. of specific GenEd courses; 5100:200 (may be taken as prerequisite or corequisite); FBI/BCI background checks. Focuses on the developmental influences and characteristics of learners, and psychological principles pertaining to teaching and learning processes, motivation and self-regulation in learners. This course will include 10 hours of field observation in a suburban school setting.		
300	ED EQTY & EXC IN CULT PL SOCTY	3 credits
Prerequisites: 5100:200, 220, 5500:230, 5610:225. Corequisite with or prerequisite to 5500:360. Engages teacher candidates in inquiry-based seminars and service learning that facilitate their developing pedagogical competence implementing equity and excellence in education.		
330	EARLY ADOLESCENT LEARNER	3 credits

		Study of issues in adolescent development, particularly as it relates to educational settings. Physical, cognitive, language, emotional, social, and moral development in learners 8-14 years old.
410	PROF ISSUES IN EDUCATION	3 credits
		Prerequisites: 5500:310, 311, 320, 330. Course work applies social and philosophical foundations of education to current and historical issues in education with attention to roles and responsibilities of contemporary teachers.
420	INTRO: INSTRUCTIONAL COMPUTING	3 credits
		Prepares the student in the use of instructional technologies in educational and business settings. Segments of the course are offered in an online format.
430	SR HONORS PROJECT: FOUNDATIONS	1-6 credits
		(May be repeated for a total of six credits) Prerequisites: senior standing in Honors Program and permission of student's preceptor. Carefully defined individual study demonstrating originality and sustained inquiry.
480	ST: EDUCATIONAL FOUNDATIONS	1-4 credits
		(May be repeated with a change in topic) Prerequisite: permission of instructor. Group study of special topics of critical, contemporary concern in professional education.
490	W: EDUC FOUNDATIONS&LEADERSHIP	1-3 credits
		Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units.
491	W: EDUC FOUNDATIONS&LEADERSHIP	1-3 credits
		Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units.
492	W: EDUC FOUNDATIONS&LEADERSHIP	1-3 credits
		Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units.
494	ED INST: ED FOUNDATNS&LEADRSHP	1-4 credits
		Special course designed as in-service upgrading programs.
497	INDEPENDENT STUDY	1-3 credits
		(May be repeated for a total of six credits) Prerequisites: permission of department head and instructor. Specific area of study determined in accordance with program and professional goals.

Course Details (5200)

100	ORIENT TO EARLY CHILDHOOD EDUC	0 credits
Corequisite: 5100:200. Orientation to the information and strategies necessary for a student to be successful in the program, including portfolio development.		
200	PRE-K PARTICIPATION I	1 credits
Prerequisite: 7400:265, 2200:245. Planned field experience in a pre-kindergarten infant/toddler classroom where students work with children age birth to 3 years both individually and in small groups.		
215	CHILD, FAMILY & SCHOOL	3 credits
Prerequisites: 5100:220, 5610:225. The purpose of this course is to learn about why we create reciprocal working relationships with parents, and methods of creating these types of relationships. (10 field/clinical hours).		
220	VISUAL ARTS CULTR-EARLY CHD	1 credits
Art education concepts, structures, and knowledge base to provide curricular opportunities for education majors to develop as creative problem solvers in an elementary school setting. First offered Fall 1993.		
250	DEV PROCESSES OF INVESTIGATION	3 credits
Prerequisites: 5050:210, 211, admission to Teacher Education Program. This course will enable students to identify and acquire those investigative and discovery processes and skills that are common in mathematics, science, and social studies.		
300	PRE-K PARTICIPATION II	1 credits
Prerequisite: 200, 5610:450 and admission to Teacher Education Program. Planned field experience in pre-kindergarten early intervention program where student works in both small and large group settings and with individual children.		
319	INTEGR EXPRES ARTS IN ERLY CHD	3 credits
Prerequisite: Admission to Teacher Education and 7100:210 or 7500:201. Use of expressive arts as a means for young children to represent their thinking and to enhance their learning of curriculum content.		
320	VISUAL ARTS APPLIC IN ELEM SCH	3 credits
Prerequisite: 5200:220. Exploration of materials, methods, processes and visual techniques relating two and three-dimensional art experiences for the teacher of elementary children.		
321	INSTR TECH: MODERN LANG K-8	3 credits

Prerequisites: Permission of student's preceptor. Carefully defined individual study demonstrating originality and sustained inquiry. (May be repeated for a total of six credits).		
480	ST: ELEMENTARY EDUCATION	1-4 credits
(May be repeated with a change in topic) Prerequisite: permission of instructor. Group study of special topics of critical, contemporary concern in professional education.		
490	W: ELEMENTARY EDUCATION	1-3 credits
Elective workshop for elementary education major who would pursue further refinement of teaching skills. Emphasizes demonstrations of teaching techniques and development of suitable teaching devices.		
491	W: ELEMENTARY EDUCATION	1-3 credits
Elective workshop for elementary education major who would pursue further refinement of teaching skills. Emphasizes demonstrations of teaching techniques and development of suitable teaching devices.		
492	W: ELEMENTARY EDUCATION	1-3 credits
Elective workshop for elementary education major who would pursue further refinement of teaching skills. Emphasizes demonstrations of teaching techniques and development of suitable teaching devices.		
493	W: ELEMENTARY EDUCATION	1-3 credits
Elective workshop for elementary education major who would pursue further refinement of teaching skills. Emphasizes demonstrations of teaching techniques and development of suitable teaching devices.		
495	STU TEACH: (PRE-K THROUGH K)	5 credits
Prerequisites: Approval of the Student Teaching Committee, considered based upon approved application to student teaching, passing PRAXIS II subject test, and approved portfolio. Corequisite: 498. Planned teaching experience in schools selected and supervised by Office of Field Experience.		
496	STU TEACH: (GRADES 1-3)	6 credits
Prerequisites: Approval of the Student Teaching Committee, considered based upon approved application to student teaching, passing PRAXIS II subject test, and approved portfolio. Corequisite: 498. Planned teaching experience in schools selected and supervised by Office of Field Experience.		
497	INDP STUDY: ELEMENTARY EDUC	1-3 credits
Prerequisites: permission of adviser and department head. Specific area of curriculum investigation pertinent to elementary education as determined by student's academic needs.		
498	STUDENT TEACHING COLLOQUIUM	1 credits
Prepares students for the final phase of becoming decision makers. The colloquium will explore problems encountered in classrooms, initiate reflective practice and concepts of action research, and focus on preparation of unit outlines with emphasis on applied decision making.		

Course Details (5250)

100	ORIENTATION TO MIDDLE LEVEL ED	0 credits
Prerequisite: admission to Middle Level Education Program; corequisite: 5100:200. Orientation to the information and strategies necessary for a student to be successful in the program, including portfolio development.		
300	MIDDLE LEVEL EDUCATION	3 credits
Prerequisite or corequisite: 5500:360. Reviews nature/needs of early adolescents; developmentally appropriate middle schooling; philosophy of school organizations; curriculum, pedagogy, and assessment; cultural and community contexts. 15 field hours.		
333	TCHNG SCIENCE MID LEVEL LEARNR	4 credits
Prerequisite or corequisite: 5500:370. A methods course for the prospective teacher to develop a point of view toward science teaching and strategies for effective standards-based science teaching. (15 field hours)		
338	TCH SOC STUDIES MIDDLE CHILDHD	3 credits
Prerequisites: 5100:300, 5500:360. A methods course to examine the school social studies curriculum and strategies for effective teaching.		
342	TEACH MATH MID LVL LEARNR	3 credits
Prerequisite or corequisite: 5500:370. Modern strategies of psychology and methodology in middle childhood mathematics on exploratory, structural and mastery levels of learning.		
350	TCH LANG ARTS & MEDIA MID LVL	3 credits
Prerequisites: 5100:300; 5500:245, 286, 360. This course provides preservice middle grade teachers with strategies for integrating the language arts in the areas of reading, writing, speaking, listening, media and drama.		
351	MODES OF WRITING FOR MID GRDS	3 credits
Prerequisite: Admission to College of Education's Teacher Education Program. This course will provide middle school languages arts teachers the understandings and skills necessary to teach writing in varieties of forms and modes including newswriting.		
430	HONORS RES PROJ: MIDDLE LVL ED	1-6 credits
(May be repeated for a total of six credits.) Prerequisites: Permission of student's preceptor. Carefully defined individual study demonstrating originality and sustained inquiry.		
480	ST: MIDDLE SCHOOL	1-3 credits

Course Details (5300)

100	ORIENT:AYA/P-12 MULTI-AGE PRG	0 credits
Prerequisite: admission to the College of Education's Teacher Education Program. Corequisite: 5100:200. Orientation to the information and strategies necessary for a student to be successful in the program, including portfolio development.		
316	METHODS IN TEACHING ART	3 credits
Prerequisites: completion of required course for art teachers and grade-point average of 2.50 in the field. Study of trends and procedures in teaching and supervision; relation of art to home, school and community; observation in selected schools required.		
317	INST TECH: MOD LANG-SECONDARY	3 credits
Focus on theories of language acquisition, models of instruction for teaching foreign languages/cultures and strategies that promote levels of proficiency/competency for adolescent learners.		
325	CONTENT READING IN SECD SCHOOL	3 credits
Instructional principles and practices for helping secondary school youth and adults learn subject matter through application of reading and study skills.		
330	TCHG ADOLESCENT/MID LEVEL LIT	3 credits
Student develops skills for selection of literature that is well-suited for adolescent/middle level children. Student develops, uses, and experiences methods for teaching adolescent/middle level literature in the classroom. (30 clinical experience hours)		
335	LANG LEARNING IN SECOND SCHLS	3 credits
Prerequisite: Admission to the Teacher Education program. Introduces English teachers to the issues of language learning and techniques required to teach language skills.		
395	FLD EXP: SECONDARY EDUCATION	1-3 credits
Supervised work with youngsters, individually and in groups in school and/or community settings.		
420	INST TECH: SECONDARY EDUCATION	3 credits
Prerequisite: 5500:370; corequisite: 5300:421. Open to student who has completed certification requirements in all content fields. Techniques of planning, instruction and evaluation in various secondary teaching fields.		
421	FLD EXP: INST TECH IN SEC ED	2 credits

Prerequisite: 5500:370; Corequisite: 5300:420. 50 hours of field experience taken in conjunction with 5300:420, Instructional Techniques in Secondary Education.

430 HONORS RES PROJ: SECONDARY EDU 1-6 credits

(May be repeated for a total of six credits) Prerequisite: Permission of student's preceptor. Carefully defined individual study demonstrating originality and sustained inquiry.

480 ST: SECONDARY EDUCATION 1-4 credits

(May be repeated with a change in topic) Prerequisite: permission of instructor. Group study of special topics of critical, contemporary concern in professional education.

490 W: SECONDARY EDUCATION 1-3 credits

Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units.

491 W: SECONDARY EDUCATION 1-3 credits

Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units.

492 W: SECONDARY EDUCATION 1-3 credits

Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units.

493 W: SECONDARY EDUCATION 1-3 credits

Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units.

494 ED INST: SECONDARY EDUCATION 1-4 credits

Special courses designed as in-service upgrading programs, frequently provided with the support of national foundations.

495 STU TEACH: SECONDARY EDUCATION 8-11 credits

Prerequisites: Approval of the Student Teaching Committee, considered based upon approved application to student teaching, passing PRAXIS II subject test, and approved portfolio. Planned teaching experience in schools selected and supervised by the Office of Field Experiences. Co-requisite: 5300:496.

496 STU TEACH COLLOQ IN SECOND ED 1 credits

Concurrent with Student Teaching; emphasis on applied decision making, group problem solving, and commitment to life-long learning.

497 INDEPENDENT STUDY 1-3 credits

Specific area of curriculum investigation pertinent to secondary education as determined by student's academic needs.

Course Details (5400)

301	OCCUP EMPL EXPER & SEM	1-4 credits
Provides student with knowledge of current industrial or business practice at level minimally commensurate with that associated with employment expectations of graduates of technical programs.		
395	FLD EXP: TECHNICAL EDUCATION	1-3 credits
Prerequisite: upper-college standing. Supervised work with youngsters, individually and in groups in educational institutions, training and/or community settings.		
400	POSTSECONDARY LEARNER	3 credits
Prerequisite or corequisite: 401 or permission. Describes characteristics of the postsecondary learner and studies issues, factors, and strategies pertinent to successful facilitation of learning in a variety of postsecondary occupational learning environments. Delivered in a totally on-line format and face to face format with web enhancements.		
401	LEARNING WITH TECHNOLOGY	3 credits
Experiences in using, developing, and evaluating instructional technologies and media used for postsecondary education. Delivered in a totally on-line format and face to face format with web enhancements.		
405	WORKFORCE EDUC YOUTH & ADULTS	3 credits
Prerequisite or corequisite: 401 or permission of the instructor. History and operations of current vocational education for youth and adults. Includes study of social, economic and political influences that stimulate growth and expansion of vocational education. Delivered in a totally on-line format and face to face format with web enhancements.		
415	TRAIN IN BUSINESS & INDUSTRY	3 credits
Prerequisites: 401 or permission from instructor. Examine the role and mission of the training function in the modern industrial setting. Foundation for students interested in industrial trainer or training supervision positions. Delivered in a totally on-line format and face to face format with web enhancements.		
420	POSTSEC INSTRUCTIONAL TECHNLS	3 credits
Prerequisite or corequisite: 401 or permission of the instructor. Experiences in using, developing, and evaluating instructional technologies and media used for technical instruction. Delivered in a totally on-line format and face to face format with web enhancements.		
430	SYS CURR DSGN FOR POSTSEC INST	3 credits

Area of study determined by student's need.

Course Details (5500)

230	EDUCATIONAL TECHNOLOGY	3 credits
Prerequisite: 13-15 sem. hrs. with a 'C' or better in specific GenEd courses; 5100:200 (may be taken as prerequisite or corequisite); FBI/BCI background checks. Effectively identifying, locating, evaluating, designing, preparing, and efficiently using educational technology as instructional resource in the classroom to support learning and teaching.		
245	UNDRSTND LIT DEVLPMNT & PHONICS	3 credits
Prerequisite: admission to Teacher Preparation Program. Children's literacy development is explored through an integrated instructional model, with emphasis on the role of comprehension, phonics, and functional spelling in language learning. (10 hours of service learning)		
286	TEACH MULT TXT THRU GENRE	3 credits
Prerequisite: 245. Survey of children's literature through print and nonprint media. Genres will be explored through a variety of technologies, including computer software and film.		
310	INSTRUCTIONAL DESIGN	3 credits
Prerequisite: 5100:210, 5100:211; Corequisite: 311. Design and teach lessons using instructional models, strategies, and resources for students with different characteristics and design appropriate assessments to measure content mastery.		
311	INSTRUCTIONAL RESOURCES	3 credits
Prerequisites: 5100:210, 5100:211; Corequisite: 310. Examines existing and developing media, technological, human and environmental resources as they relate to learning. Includes identifying, locating, evaluating, using, designing, and preparing educational resources.		
320	DIVERSITY IN LEARNERS	3 credits
Prerequisites: 5100:210, 5100:211. Students learn to appreciate common core culture, the diversity in the student population and the democratic ideal of equal access to educational opportunity. (10 hours of field experience included.)		
330	CLASSROOM MANAGEMENT	3 credits
Prerequisites: 5100:210, 5100:211. Content regarding effective organization of the classroom as well as procedures and models for mediation of student behaviors will be presented.		
341	LAB PRACTICUM IN READING	3 credits
Prerequisite: 445. Laboratory experience with classroom, small groups and individual situations. A student diagnoses, implements procedures and follows prescribed reading improvement practices. (25.5 field hours)		

360	ED PLAN: INST,ASSESS & CLS MGT	3 credits
Prerequisites: 230, 5100:200, 220; 5610:225; prerequisite or corequisite: 5100:300. Theoretical foundations for standards-based thematic units and lesson plans, classroom assessment and organization, including procedures and models for mediating student behavior and classroom management.		
370	ED IMP: INST,ASSESSMT, CLS MGT	3 credits
Prerequisites: 360, 5100:300. Interpretation and application of standards-based thematic units and lesson plans; classroom assessment and organization, including mediation of student behaviors and classroom management.		
440	DEV RDG CONT AREA-E/MID CHD	3 credits
Prerequisite: 245 or permission of instructor. Nature of reading skills relating to content subjects. Methods and materials needed to promote reading achievement in content subjects by the elementary classroom teacher.		
442	TCHG RDG CULTR DIVERS LEARNERS	3 credits
Prerequisites: 245, 286. The course is designed to provide students with knowledge, skills, and attitudes that will enable employment of effective methods of teaching reading to culturally different learners and/or learners whose language patterns are nonstandard.		
445	EVALUATING LANGUAGE LITERACY	3 credits
Prerequisite: 245, 286, 440. Explores assessment of students' progress in language literacy. Formal and informal instruments identifying progress in reading, writing, speaking and listening are examined linked to work in the field. (30 hours of field experience)		
450	NATURE, HSTRY & PHLSPHY OF SCI	3 credits
(May be repeated with a change in topic). Provides opportunities to examine the historical and philosophical perspectives of science in an online medium and the impact of science and technology on society.		
455	LITERACY FOR MULTIAGE LICENSUR	3 credits
Prerequisite: Admission to Teacher Education Program. Organizing instruction, use of oral language development protocols, strategies for word skill development, comprehension and assessment as they relate to content areas.		
475	INSTRUCTIONAL TECHNOLOGY APPL	3 credits
Prerequisite: 5500:230. Focus on developing learner competencies in the use of instructional technologies to enhance both the instructor's personal and professional productivity.		
480	ST: CURRICULUM & INSTRUCTION	1-6 credits
Group study of special topics of critical, contemporary concern in professional education. (May be repeated with a change in topic)		

484	PRINC: BILINGUAL/MULTICULT ED	3 credits
An introduction to the theoretic, cultural, sociolinguistic bases of bilingual/multicultural education. Legislation, court decisions, program implementation included.		
485	TCHING LITERACY TO ENGL LEARN	3 credits
Prerequisite: Admission to the College of Education. Course applies methodologies for teaching literacy to English learners, assessment of literacy skills and development of materials. 12 field hours of field experience are required.		
486	TCH MATH,SOC STD&SCI-BIL STDS	3 credits
Prerequisites: Completion of all age-appropriate methods courses. Course applies methodologies for teaching mathematics, science, social studies in the bilingual/multicultural classroom. The bilingual student's native language stressed.		
487	TECH TCHG ESL	3 credits
Course includes teaching language skills to Limited English Proficient students in grades K-12, administration of language assessment tests, selection and evaluation of materials. (10 field hours)		
488	PRACT: TEACH ENGL AS A SEC LAN	2 credits
Prerequisites: 485, 487. A practical experience in which teacher candidates observe, participate, and practice teaching in an ESL classroom under the supervision of an experienced, certified/licensed teacher.		
490	W: CURRICULUM & INSTRUCTION	1-3 credits
Emphasizes development of teaching devices and/or curriculum units, demonstration of teaching techniques.		
491	W: CURRICULUM & INSTRUCTION	1-3 credits
Emphasizes development of teaching devices and/or curriculum units, demonstration of teaching techniques.		
492	W: CURRICULUM & INSTRUCTION	1-3 credits
Emphasizes development of teaching devices and/or curriculum units, demonstration of teaching techniques.		
497	INDEPENDENT STUDY	1-3 credits
Prerequisite: permission of advisor and department chair. Specific area of curriculum investigation pertinent to the general curriculum and instruction area as determined by student's academic needs.		

Course Details (5540)

120	ARCHERY	0.5 credits
Participation in individual and group sports. Individual can acquire knowledge and skill in activities which may be of value and satisfaction throughout life. One-half credit courses are offered one-half semester. Permission of coach necessary for enrollment in varsity sports (170-181).		
121	BADMINTON	0.5 credits
Participation in individual and group sports. Individual can acquire knowledge and skill in activities which may be of value and satisfaction throughout life. One-half credit courses are offered one-half semester. Permission of coach necessary for enrollment in varsity sports (170-181).		
122	BASKETBALL	0.5 credits
Participation in individual and group sports. Individual can acquire knowledge and skill in activities which may be of value and satisfaction throughout life. One-half credit courses are offered one-half semester. Permission of coach necessary for enrollment in varsity sports (170-181).		
123	BOWLING	0.5 credits
Participation in individual and group sports. Individual can acquire knowledge and skill in activities which may be of value and satisfaction throughout life. One-half credit courses are offered one-half semester. Permission of coach necessary for enrollment in varsity sports (170-181).		
126	FITNESS AND WELLNESS	1 credits
Participation in individual and group sports. Individual can acquire knowledge and skill in activities which may be of value and satisfaction throughout life. One-half credit courses are offered one-half semester. Permission of coach necessary for enrollment in varsity sports (170-181). One credit each. Two periods each week.		
127	GOLF	1 credits
Participation in individual and group sports. Individual can acquire knowledge and skill in activities which may be of value and satisfaction throughout life. One-half credit courses are offered one-half semester. Permission of coach necessary for enrollment in varsity sports (170-181).		
128	GYMNASTICS (APPARATUS)	0.5 credits
Participation in individual and group sports. Individual can acquire knowledge and skill in activities which may be of value and satisfaction throughout life. One-half credit courses are offered one-half semester. Permission of coach necessary for enrollment in varsity sports(170-181).**		
129	GYMNASTICS (TUMBLING)	0.5 credits

<p>Participation in individual and group sports. Individual can acquire knowledge and skill in activities which may be of value and satisfaction throughout life. One-half credit courses are offered one-half semester. Permission of coach necessary for enrollment in varsity sports(170-181).**</p>		
130	HANDBALL	0.5 credits
<p>Participation in individual and group sports. Individual can acquire knowledge and skill in activities which may be of value and satisfaction throughout life. One-half credit courses are offered one-half semester. Permission of coach necessary for enrollment in varsity sports(170-181).**</p>		
131	INDOOR SOCCER	0.5 credits
<p>Participation in individual and group sports. Individual can acquire knowledge and skill in activities which may be of value and satisfaction throughout life. One-half credit courses are offered one-half semester. Permission of coach necessary for enrollment in varsity sports(170-181).**</p>		
132	KARATE	1 credits
<p>Participation in individual and group sports. Individual can acquire knowledge and skill in activities which may be of value and satisfaction throughout life. One-half credit courses are offered one-half semester. Permission of coach necessary for enrollment in varsity sports (170-181). One credit each. Two periods each week.</p>		
133	LIFEGUARD TRAINING	2 credits
<p>Participation in individual and group sports. Individual can acquire knowledge and skill in activities which may be of value and satisfaction throughout life. One-half credit courses are offered one-half semester. Permission of coach necessary for enrollment in varsity sports (170-181). Two credits each.</p>		
134	MODERN DANCE	0.5 credits
<p>Participation in individual and group sports. Individual can acquire knowledge and skill in activities which may be of value and satisfaction throughout life. One-half credit courses are offered one-half semester. Permission of coach necessary for enrollment in varsity sports(170-181).**</p>		
135	RACQUETBALL	0.5 credits
<p>Participation in individual and group sports. Individual can acquire knowledge and skill in activities which may be of value and satisfaction throughout life. One-half credit courses are offered one-half semester. Permission of coach necessary for enrollment in varsity sports (170-181).</p>		
136	RUGBY	0.5 credits
<p>Participation in individual and group sports. Individual can acquire knowledge and skill in activities which may be of value and satisfaction throughout life. One-half credit courses are offered one-half semester. Permission of coach necessary for enrollment in varsity sports(170-181).**</p>		
138	SCUBA	1 credits

Participation in individual and group sports. Individual can acquire knowledge and skill in activities which may be of value and satisfaction throughout life. One-half credit courses are offered one-half semester. Permission of coach necessary for enrollment in varsity sports (170-181). One credit each. Two periods each week.

139 SELF DEFENSE 1 credits

Participation in individual and group sports. Individual can acquire knowledge and skill in activities which may be of value and satisfaction throughout life. One-half credit courses are offered one-half semester. Permission of coach necessary for enrollment in varsity sports (170-181). One credit each. Two periods each week.

140 SKIING (CROSS-COUNTRY) 0.5 credits

Participation in individual and group sports. Individual can acquire knowledge and skill in activities which may be of value and satisfaction throughout life. One-half credit courses are offered one-half semester. Permission of coach necessary for enrollment in varsity sports(170-181).**

141 SKIING (DOWNHILL) 0.5 credits

Participation in individual and group sports. Individual can acquire knowledge and skill in activities which may be of value and satisfaction throughout life. One-half credit courses are offered one-half semester. Permission of coach necessary for enrollment in varsity sports (170-181).

142 SOCCER 0.5 credits

Participation in individual and group sports. Individual can acquire knowledge and skill in activities which may be of value and satisfaction throughout life. One-half credit courses are offered one-half semester. Permission of coach necessary for enrollment in varsity sports (170-181).

143 SOCIAL DANCE 0.5 credits

Participation in individual and group sports. Individual can acquire knowledge and skill in activities which may be of value and satisfaction throughout life. One-half credit courses are offered one-half semester. Permission of coach necessary for enrollment in varsity sports(170-181).**

145 SQUASH RACKETS 0.5 credits

Participation in individual and group sports. Individual can acquire knowledge and skill in activities which may be of value and satisfaction throughout life. One-half credit courses are offered one-half semester. Permission of coach necessary for enrollment in varsity sports(170-181).**

146 SWIMMING (BEGINNING) 1 credits

Participation in individual and group sports. Individual can acquire knowledge and skill in activities which may be of value and satisfaction throughout life. One-half credit courses are offered one-half semester. Permission of coach necessary for enrollment in varsity sports (170-181).

147 SWIMMING (INTERMEDIATE) 1 credits

<p>Participation in individual and group sports. Individual can acquire knowledge and skill in activities which may be of value and satisfaction throughout life. One-half credit courses are offered one-half semester. Permission of coach necessary for enrollment in varsity sports (170-181).</p>		
149	TEAM HANDBALL	0.5 credits
<p>Participation in individual and group sports. Individual can acquire knowledge and skill in activities which may be of value and satisfaction throughout life. One-half credit courses are offered one-half semester. Permission of coach necessary for enrollment in varsity sports(170-181).**</p>		
150	TENNIS (BEGINNING)	0.5 credits
<p>Participation in individual and group sports. Individual can acquire knowledge and skill in activities which may be of value and satisfaction throughout life. One-half credit courses are offered one-half semester. Permission of coach necessary for enrollment in varsity sports (170-181).</p>		
151	VOLLEYBALL	0.5 credits
<p>Participation in individual and group sports. Individual can acquire knowledge and skill in activities which may be of value and satisfaction throughout life. One-half credit courses are offered one-half semester. Permission of coach necessary for enrollment in varsity sports (170-181).</p>		
152	WATER POLO	0.5 credits
<p>Participation in individual and group sports. Individual can acquire knowledge and skill in activities which may be of value and satisfaction throughout life. One-half credit courses are offered one-half semester. Permission of coach necessary for enrollment in varsity sports(170-181).**</p>		
153	WATER SAFETY	1 credits
<p>Participation in individual and group sports. Individual can acquire knowledge and skill in activities which may be of value and satisfaction throughout life. One-half credit courses are offered one-half semester. Permission of coach necessary for enrollment in varsity sports(170-181).**One credit each. Two periods each week.</p>		
154	WRESTLING	0.5 credits
<p>Participation in individual and group sports. Individual can acquire knowledge and skill in activities which may be of value and satisfaction throughout life. One-half credit courses are offered one-half semester. Permission of coach necessary for enrollment in varsity sports(170-181).**</p>		
155	BASIC KAYAKING	1 credits
<p>Participation in individual and group sports. Individual can acquire knowledge and skill in activities which may be of value and satisfaction throughout life. One-half credit courses are offered one-half semester. Permission of coach necessary for enrollment in varsity sports (170-181). One credit each. Two periods each week.</p>		
170	VARSAITY BASEBALL	1 credits

199	ST: GENERAL STDS PHYSICAL EDUC	0.5-2 credits
See department for course description.		
200	LIFEGUARD INSTRUCTOR	2 credits
This course is designed to train students to teach the American Red Cross lifeguard training courses.		
201	WATER SAFETY INSTRUCTOR	2 credits
This course is designed to train students to teach swimming and water safety courses from Pre-K to adult.		
207	INTRO: ROCK CLIMBING	1 credits
This course teaches basic rock-climbing skills. No previous experience in necessary.		

Course Details (5550)

100	INTRO: SPORT STUDIES	3 credits
Introduction to sport studies explores the history, philosophy, and principles of today's sport industry within a practical, career-oriented framework.		
102	PE ACTIVITIES I: FIT,HLTHYLIFE	3 credits
Introduction to fitness and leisure activities, as well as healthy life style. Knowledge of developing programs that lead to fitness, leisure and healthy life style for individuals as well as groups.		
110	INTRO: ATHLETIC TRAINING	1 credits
Provides an overview of the Sports Medicine team and the components of a comprehensive athletic healthcare program. Introduces the student to the profession of athletic training.		
125	INTRO: EXERCISE SCIENCE	1 credits
Overview for becoming a fitness professional. Information concerning choosing a career, national certification and professional organizations will be provided.		
130	PHYS ED ACTIVITIES FOR CHILDRN	2 credits
For a physical education majors only. Participation in methods, activities and issues relating to pre-K through elementary physical education programs. One lecture and two laboratory periods per week.		
150	CONCEPTS IN HEALTH & FITNESS	3 credits
Introduction to basic health and fitness concepts and related topics. Attention will be given to individual fitness programs emphasizing such topics as aerobic and anaerobic exercises, nutrition, diet, stress, and assessment methods and procedures.		
160	INTRODUCTION TO COACHING	3 credits
An introduction to the coaching profession. Discussion of the important technical and tactical elements of coaching athletes.		
193	ORIENTATION: PHYS & HEALTH ED	3 credits
Introduction to physical and health education to students who pursuit state license in teaching physical and health education. It's also the required course before the admission to the college of education.		
194	SPORTS OFFICIATING	2 credits
Knowledge of rules for interscholastic sports and officiating techniques.		
195	FOUNDATIONS OF PHYSICAL EDUC	3 credits

Based on American Red Cross standards for first aid and cardiopulmonary resuscitation. Instruction and skills practice for sudden illness/emergencies is provided. Two hours lecture.

212 FIRST AID & CPR - PROF RESCUER 2 credits

Prerequisite: permission of instructor. First aid and cardiopulmonary resuscitation for health care professionals based upon American Red Cross standards. Instruction and skills practice for sudden illness/emergencies is provided.

220 HEALTH PROMOTION & BEHAV CHG 3 credits

Prerequisite: 150 Course will translate theories of behavioral science for health professionals who are involved in planning, developing, implementing or evaluating physical activity programs.

235 CONCEPTS MOTOR LEARNG & DEVLPM 3 credits

This course will introduce key motor learning concepts and analysis of developing fundamental motor skills. Three hours lecture.

240 CARE & PREV-ATHLETIC INJURIES 3 credits

Prerequisites: 3100:200,201; Corequisite: 3100:202, 203. This course is an introduction to basic athletic training principles and techniques. Includes a laboratory course for practical application of techniques.

241 CARE & PREV OF ATH INJURY LAB 1 credits

Prerequisites: 3100:200/201; corequisites: 3100:202/203, 5550:240. This course is designed to allow students to learn, practice, and become competent and proficient in the psychomotor skills associated basic injury prevention, evaluation, management, and treatment of physically active individuals in the practice of athletic training as defined by the NATA.

242 THERAPEUTIC MODALITIES 3 credits

Prerequisites: Accepted into the ATEP Clinical Education Program. Corequisite: 243. This course will promote student medical and technical aspects of therapeutic modalities and pharmacological agents in the treatment and rehabilitation of injured physically active individuals.

243 ATHLETIC TRAINING LAB I 1 credits

Prerequisites: Accepted into the ATEP Clinical Education Program. Corequisites: 242. This course will meet CAATE standards and allow the students to learn and practice psychomotor skills and clinical proficiencies. Includes clinical rotation.

245 ADAPTED PHYSICAL EDUCATION 3 credits

Identification of atypical movement among various exceptional individuals, with adapted physical education programming experience in a laboratory setting. Web-based.

250 PRINCIPLE OF ATHLETIC TRAINING 2 credits

Course presents knowledge, fundamental skill development, and psychomotor skill analysis for the content areas of tennis and volleyball. One hour lecture, two hours lab. Students must be in the College of Education to take 300/400 level courses.

308 PE ACT IV: DANCE & TUMBLING 2 credits

Course presents knowledge, fundamental skill development, and psychomotor skill analysis for the content areas of dance and tumbling. One hour lecture, two hours lab. Students must be in the College of Education to take 300/400 level courses.

327 EXERCISE LEADERSHIP 3 credits

Prerequisite: 302. Students learn principles of teaching safe and effective exercises designed to enhance physical fitness. Course will assist students in preparing for a group exercise certification.

330 EXERCISE AND WEIGHT CONTROL 3 credits

Prerequisite: 302. Course will focus on role of exercise in regard to its positive influences on weight control. The hazards and implications of being overweight are studied.

332 THERAPEUTIC EXR & REHAB I PRIN 3 credits

Prerequisites: 342, 343. Corequisite: 333. This course will address CAATE standards and guidelines for competencies and proficiencies using principles in exercise and rehabilitation techniques.

333 ATHLETIC TRAINING LAB IV 1 credits

Prerequisites: 342, 343. Corequisite: 332. This course will allow students to learn psychomotor skills associated with therapeutic exercise & rehabilitation techniques. Includes a 250 hour clinical sport rotation.

335 MVMT EXPERIENCES FOR CHILDREN 3 credits

Prerequisites: 130, 193, 235. Course focuses on use of fundamental motor skill analysis to structure movement lessons for children from early childhood through elementary years. One hour lecture, two hours lab. (20 clinical hours, 10 field hours.) Students must be in the College of Education to take 300/400 level courses.

336 MOTOR LRNG & DEV EARLY CHLDHD 2 credits

Physical fitness, fundamental motor skills, motor development and learning for early childhood, birth to age eight. Creating an environment of motor experiences for young children (10 field hours). Students must be in the College of Education to take 300/400 level courses.

342 ADV ATHLETIC INJURY MGT:UP EXT 3 credits

Prerequisites: 275, 276; corequisite: 343. This course designed to meet CAATE standards and guidelines to display knowledge and psychomotor skills in injury evaluation and recognition of the upper extremity.

343 ATHLETIC TRAINING LAB III 1 credits

Prerequisite: 275, 276; Corequisite: 342. This course will meet CAATE standards and allow the students to learn and practice psychomotor skills and clinical proficiencies. Includes clinical rotation.

352	STRENGTH & CONDITION FUND	3 credits
Prerequisite: 3100:200, 201, 202, 203. This course will address CAAHEP competencies and proficiencies in the area of strength and conditioning of physically active individuals.		
355	EXERCISE IN SPEC POPULATIONS	3 credits
Prerequisites: 302, 403. Advanced course in clinical exercise testing and prescription relative to disease of the cardiovascular, pulmonary, metabolic, musculoskeletal, neuromuscular, and immunologic systems.		
360	PRACTICUM I	1 credits
Prerequisites: 3100:200, 201, 202, 203. This is a senior level athletic training course focusing on the refinement of practical skills and preparation for the NATABOC certification examination.		
362	SPORT HISTORY	3 credits
This course is designed to introduce students to sport in American History. The people, organizations and institutions that shaped the development of sport are examined.		
364	SPORT ETHICS	3 credits
The focus of this course is the ethical behavior of sport participants and sport administrators studied within the context of the sport environment.		
366	SPORT COMMUNICATION	3 credits
The focus of this course is on the important knowledge that administrators should have related to the field of sport communication.		
368	SPORT FACILITY MANAGEMENT	3 credits
This course has been designed to identify the systems approach for the effective management of the maintenance and operation of sport and recreation facilities.		
370	FINANCIAL ASPECTS OF SPORT	3 credits
The focus of this course is related to the important knowledge that administrators should have related to the field of the financial aspects of sport.		
375	SPORT PERFORMANCE PRINCIPLES	3 credits
An introduction to important elements related to the physical aspects of sport performance. Discussion of the important physical elements of coaching athletes.		
395	FIELD EXPERIENCE	1-6 credits
Prerequisite: permission of adviser. Corequisite: permission of adviser. Practical experience in an area related to physical education under supervision of faculty member. Student works with current physical education programs or exercise science settings. May be repeated for a maximum of 12 credits. Students must be in the College of Education to take 300/400 level courses.		
400	MUSCULOSKEL ANATOMY I:UP EXTR	3 credits

418	CARDIORESPIRATORY FUNCTION	3 credits
Prerequisite: 302. This course is designed to study the normal structure and function of the respiratory system and how it is affected by different types of disease.		
420	FUNDA OF MGMT STRATEG IN SPORT	3 credits
This course seeks to explore, acquire, and discuss knowledge within the theoretical and applied management practices of sport, fitness, and instructional programs. Delivered in a totally online format, web-based format, or in a face-to-face format. Students must be in the College of Education to take 300/400 level courses.		
422	SPORT PLANNING/PROMOTION	3 credits
Analysis of marketing/promotions from a sport manager's perspective. Emphasis on marketing strategy, tactics and development in sport delivery systems. Delivered in a totally online format, web-based format, or in a face-to-face format.		
424	SPORTS LEADERSHIP	3 credits
Introduces students to current issues related to leadership, management, and supervision. Examines current sport leadership research and governance structure of amateur and professional sport organizations. Delivered in a totally online format, web-based format, or in a face-to-face format.		
426	NUTRITION FOR SPORTS	3 credits
Prerequisite: 7760:133. This course will provide an explanation of the consumption, absorption, and recommendation for diet of athletes and the physically active individual.		
428	NUTRITION TEACHERS & COACHES	3 credits
Covers nutritional basics and topics related to teaching physical education/health and coaching athletes, including basic nutrition, eating disorders, meal preparation, and trends in nutrition.		
430	SR HONORS PROJ: PHYSICAL EDUC	1-6 credits
(May be repeated for a total of six credits) Prerequisites: senior standing in Honors Program and permission of student's preceptor. Carefully defined individual study demonstrating originality and sustained inquiry. *Students must be in the College of Education to take 300/400 level courses.		
436	FOUND&ELEMNTS-ADPTED PHYS EDUC	3 credits
Principles, components, and strategies necessary in providing motor activities for handicapped students via application of a neurodevelopmental model and alternate methods. Three hours lecture. Students must be in the College of Education to take 300/400 level courses.		
438	CARDIAC REHAB PRINCIPLES	3 credits
Prerequisite: 302. This course will teach students the core competencies for cardiac rehab professionals, based upon the American Association of Cardiovascular and Pulmonary Rehabilitation Specialists (AAVCPR).		
440	INJURY MGT FOR TEACHER & COACH	2 credits

Prerequisites: 211. This course challenges the student to understand ways to provide and care for the safety of individual they teach or coach.		
444	ATHLETIC TRAINING LAB V	1 credits
Prerequisites: 332, 333. Corequisite: 445. This course will meet CAATE standards and allow the students to learn and practice psychomotor skills and clinical proficiencies. Includes clinical rotation.		
445	THERAPEUTIC EXR & REHAB II APP	3 credits
Prerequisites: 332, 333. Corequisite: 444. This course will address CAATE standards and guidelines for competencies and proficiencies using principles in exercise and rehabilitation techniques.		
446	INST TECH: SECD PE & HEALTH	3 credits
Prerequisites: 102, 193 and 204/205. Instructional strategies for teaching secondary students in physical and health education. A variety of instructional models will be introduced appropriate to the learners' age and development. It is a required course for the physical education licensure. Two hours lecture, two hours lab (30 clinical hours). Students must be in the College of Education to take 300/400 level courses.		
447	INST TECH: CHILDREN IN PE & HE	3 credits
Prerequisites: 130 and 193. Instructional strategies for teaching children in physical and health education. A variety of instructional models will be introduced appropriate to the learners' age and development. Required for the physical education licensure. (30 clinical hours). Students must be in the College of Education to take 300/400 level courses.		
449	ORG & ADM FOR HEALTH CARE PROF	3 credits
Prerequisites: senior level status and permission only. This class is a requirement for Athletic Trainers and Exercise Science majors. This class presents the skills necessary for supervising a health care facility.		
450	O & A: PHYS ED, INTRAM & ATHLTC	3 credits
Prerequisite: instructor's permission. Investigation of procedures for conducting physical education, intramural, and athletic programs. Includes tournament designs, supplies and equipment, liability, curriculum, and general administration. Three hours lecture. Students must be in the College of Education to take 300/400 level courses.		
451	ASSESS & EVAL IN ADPTD PHYS ED	3 credits
Prerequisites: permission of adviser. Investigation, analysis, and selection of appropriate assessment instruments, as well as methodology for determining instructional objectives and activities for handicapped students. Three hours lecture. Students must be in the College of Education to take 300/400 level courses.		
452	FOUND OF SPT SC, PHY & HLTH ED	3 credits
Overview of the emergence of sport science, physical and health education as a profession and the supporting role of underlying scholarly and scientific disciplines. Three hours lecture. Students must be in the College of Education to take 300/400 level courses.		
453	PRINCIPLES OF COACHING	3 credits

Basics for becoming a successful coach. Discussion of principles applying to most sports, players and coaches. Delivered in a totally online format, web-based format, or in a face-to-face format. Ten clinical hours required. Students must be in the College of Education to take 300/400 level courses.

456 RESEARCH SEMINAR 2 credits

Prerequisite: Enrollment with Advisor permission only. This course is designed to provide students an opportunity to review current research, create, implement, and present original research in an allied health related field.

459 PRACTICUM SEMINAR 1 credits

Prerequisite: permission of instructor. This course will focus on the professional development process, including practicum preparation, resume development, interview skills and job search strategies.

460 PRACT: PHYSICAL EDUCATION 1-6 credits

Prerequisites: permission of adviser. Corequisite: permission of adviser. Practical work experience with certified personnel in a discipline or profession related to physical education or sport and exercise science. May be repeated for a maximum of 12 credits. *Students must be in the College of Education to take 300/400 level courses.

462 LEGAL ASP OF PHYSICAL ACTIVITY 2 credits

Overview legal and ethical elements of greatest concern to specialists in sport and physical activity. Cases used to illustrate specific points. Topics vary. Delivered in a totally online format, web-based format, or in a face-to-face format.

465 PSYCHOLOGY OF INJURY REHAB 2 credits

Prerequisites: 3100:200, 201, 202, 203. This course will address the cognitive and affective aspects of injury and rehabilitation of injury. Specifically the stages of rehabilitation and techniques to aid in the rehabilitation process.

467 PRACTICUM II 1 credits

Prerequisites: 3100:200, 201, 202, 203. This course will allow the students to practice psychomotor skills in the high school setting while being supervised by a certified athletic trainer.

470 ORTHOPEDIC INJURY & PATHOLOGY 3 credits

Prerequisites: 3100:200, 201, 202, 203. This course will discuss common musculoskeletal pathology and surgical procedure associated with a physically active population.

480 ST: PHYSICAL EDUCATION 1-4 credits

(May be repeated with a change in topic) Prerequisite: permission of instructor. Group study of special topics in physical education. May be repeated with change in topic. Delivered in a totally online format, web-based format, or in a face-to-face format. *Students must be in the College of Education to take 300/400 level courses.

485 EXERCISE SCIENCE CAPSTONE 2 credits

Course Details (5560)

430	SR HONORS PROJ: OUTDOOR EDUC	1-6 credits
<p>(May be repeated for a total of six credits) Prerequisites: senior standing in Honors Program and permission of student's preceptor. Carefully defined individual study demonstrating originality and sustained inquiry.</p>		
450	APPL OUTDOOR ED TO SCH CURRIC	4 credits
<p>Provides knowledge, skills and techniques useful in application of outdoor education to school curriculum.</p>		
452	RESRC & RESRC MGT TCH OUTDR ED	4 credits
<p>Methodologies unique to outdoor education which incorporate a multisensory approach to learning. Instructional materials and resources which permit expansion of curriculum beyond the school building.</p>		
454	RESIDENT OUTDOOR EDUCATION	2 credits
<p>Skills, program considerations, and organizational techniques unique to an extended, overnight, resident outdoor education program. Off-campus location for four days and three nights.</p>		
456	OUTDOOR PURSUITS	4 credits
<p>Investigation and participation in practical experiences in outdoor pursuits.</p>		
460	OUTDOOR EDUCATION PRACTICUM	2 credits
<p>Prerequisites: 452, 454. Closely supervised practical experience in conjunction with regularly scheduled classroom meetings. Laboratory experience consists of active participation with an established outdoor education program.</p>		
464	WLDRNSS EDUC ASSC OUTDR LDRSHP	3 credits
<p>This is the Wilderness Education Association Standard Program for Outdoor Leadership Certification.</p>		
497	INDEPENDENT STUDY	1-3 credits
<p>Prerequisites: permission of adviser and supervisor of independent study. Provides varied opportunities for a student to gain first-hand knowledge and experience with existing outdoor education programs.</p>		

Course Details (5570)

101	PERSONAL HEALTH	2 credits
This course applies the current principles and facts pertaining to healthful, effective living, personal health problems, and needs of the student. Two hours lecture.		
201	FOUNDATIONS IN HEALTH EDUCATN	3 credits
Prerequisite: 101. History and philosophy of health education as a discipline; professionalism and administration in health education are considered.		
202	STRESS MANAGEMENT	3 credits
Prerequisite: Sophomore standing. Course provides knowledge about the relationship between stress, physiological, psychological illness and disease, also how to manage stress in life activities.		
322	CURRENT TOPICS IN HEALTH EDUC	3 credits
Prerequisites: 101, 201, 320. Skills needed to do research, teach, and present current health education topics in a factual and comfortable manner in schools and community. Three hours lecture. Students must be in the College of Education to take 300/400 level courses.		
375	PROGRAM PLANNING & EVALUATION	2 credits
Prerequisites: 101, 201. This course addresses the process of planning and evaluating health education programs within the school and community.		
395	FIELD EXPER: HEALTH EDUCATION	1-3 credits
Prerequisite: permission of the adviser. On-site field experience will be conducted in an area related to pre-K-12 health education under the supervision of a faculty member. Students must be in the College of Education to take 300/400 level courses.		
400	ENVIRON ASPECTS OF HEALTH EDUC	3 credits
Prerequisite: Major or minor in health education or instructor's permission. A study of the interrelationships of ecosystems and a healthful environment. This course investigates many aspects of the environment and their influences upon the quality of human life. Students must be in the College of Education to take 300/400 level courses.		
420	COMMUNITY AND PERSONAL HEALTH	3 credits
Introduction of current public and personal health issues. Organizations and their roles in public and personal health programs. Students must be in the College of Education to take 300/400 level courses.		
421	COMPREHENSIVE SCHOOL HEALTH	3 credits

Prerequisites: 101, 201, 320. This course explains and presents comprehensive school health curricula for pre-k to 12. The three components of a comprehensive school health program are presented.

423 MTHDS & MTRLS TCH HLTH EDUCATN 3 credits

Prerequisites: 101, 201, 320, 5100:210/211, 5500:310/311. Planning, organization, use of instructional resources and delivery of health education content and teaching process (pre K-12). Students must be in the College of Education to take 300/400 level courses.

430 SR HONORS PROJ: HEALTH EDUCATN 1-6 credits

(May be repeated for a total of six credits) Prerequisites: senior standing in Honors Program and permission of student's preceptor. Carefully defined individual study demonstrating originality and sustained inquiry. Students must be in the College of Education to take 300/400 level courses.

460 PRACT: HEALTH EDUCATION 2-6 credits

Prerequisite: permission of the adviser. The practicum in Health Education is an on-site participation in a community health organization, agency or resource. Students must be in the College of Education to take 300/400 level courses.

497 INDP STUDY: HEALTH EDUCATION 1-2 credits

Prerequisite: permission of the adviser. Analysis of a specific topic related to a current problem in health education. May include investigative procedure, research or concentrated practical experience.

Course Details (5600)

401	INTRODUCTION TO SUICIDOLOGY	3 credits
Introduction to Suicidology covers a broad range of issues related to suicide from global, U.S. national, state and local perspectives.		
410	PERSONNEL SERVICES IN SCHOOL	2 credits
Prerequisite: senior standing. Introduction to background, role and function, techniques, community agencies and issues in personnel field. For student considering pupil personnel fields, social work.		
415	MENTAL ILLNESS & MEDIA	2 credits
Mental illness is often portrayed negatively the media. This course focuses on mental illness, stigma, and how movies portray specific mental disorders.		
426	CAREER EDUCATION	2 credits
Prerequisite: junior, senior or graduate standing. Examination of current career education models and programs with emphasis on infusion of career education activities into elementary and secondary curriculum.		
436	HELPING SKILLS RESIDENT ASSTS	2 credits
(Credit/noncredit) Prerequisite: open to resident assistants in University housing. A course designed to help student personnel workers become more effective in professional role.		
450	CNSL PROB LF-THREAT ILLNES&DTH	3 credits
Prerequisite: permission. Consideration of the global issues, current research, coping behavior, support systems and family and individual needs in regard to life-threatening situations.		
480	ST: EDUC GUIDANCE & COUNSELING	1-4 credits
(May be repeated with a change in topic) Prerequisite: permission of instructor. Group study of special topics of critical, contemporary concern in professional education.		
490	W: EDUCATIONAL GUIDANCE & COUN	1-3 credits
Special instruction designed as in-service and/or upgrading individuals on current issues and practices in counseling.		
491	W: EDUCATIONAL GUIDANCE & COUN	1-3 credits
Special instruction designed as in-service and/or upgrading individuals on current issues and practices in counseling.		

492	W: EDUCATIONAL GUIDANCE & COUN	1-3 credits
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Special instruction designed as in-service and/or upgrading individuals on current issues and practices in counseling.

493	W: EDUCATIONAL GUIDANCE & COUN	1-4 credits
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Special instruction designed as in-service and/or upgrading individuals on current issues and practices in counseling.

494	COUNSELING INSTITUTE	1-4 credits
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In-service programs for counselors and other helping professionals.

Course Details (5610)

100	ORIENT TO INTERVENT SPECIALIST	0 credits
Prerequisite: admission to Intervention Specialist teacher education program; corequisite: 5100:200. Orientation to the information and strategies necessary for a student to be successful in the program, including portfolio development.		
206	SP: GIFTED	1 credits
NULL		
225	INTRO: EXCEPTIONALITIES	3 credits
Prerequisite: 13-15 sem. hrs. with a 'C' or better in specific GenEd courses; 5100:200 (may be taken as prerequisite or corequisite); FBI/BCI background checks. Survey course covering the identification, developmental characteristics and intervention strategies for children and youth with exceptionalities across educational and community settings.		
380	MATH METHODS: SPEC EDUCATION	3 credits
Prerequisite: Admission to the Teacher Education Program. Ensure the understanding of mathematics and to promote the prospective special education teacher's confidence in his/her own ability to teach mathematics.		
395	FIELD EXP: SPECIAL EDUCATION	1-3 credits
Supervised work with youngsters, individually and in groups in school and/or community settings.		
403	STU TEACH COLLOQ: SPECIAL EDUC	1 credits
An examination of problems, issues, and practices encountered during the student teaching experience.		
430	HONORS RES PROJ: SPECIAL EDUC	1-6 credits
(May be repeated for a total of six credits) Prerequisite: Permission of student's preceptor. Carefully defined individual study demonstrating originality and sustained inquiry.		
440	DEV CHARACT OF EXCEPTNL INDIV	3 credits
Prerequisite: Admission to a College of Education Teacher Preparation Program or permission of the instructor. A survey course covering the identification, developmental characteristics, and intervention strategies for exceptional children and youth across education and community settings. (1 field hour)		
444	DEV CHAR INTELLECT GIFTD INDV	3 credits
See department for course description.		

447	INDV-MLD/MOD ED NEEDS:CH & IMP	4 credits
Prerequisite: 225. Survey of the etiology, identification, classification, developmental characteristics of, and intervention strategies for individuals with mild/moderate educational needs.		
448	INDV-MOD/INT ED NEEDS:CH & IMP	4 credits
Prerequisite: 225. Survey of the etiology, identification, classification, and developmental characteristics of individuals with moderate/intensive educational needs.		
450	SPEC ED PROG: EARLY CHILDHOOD	3 credits
Prerequisites: 225, 447 or 448. Developmental patterns of young children with disabilities and developmentally/exceptionally appropriate practices with respect to programming and adaptations. (20 field hours)		
451	SPEC ED PROG: MILD/MODERATE I	3 credits
Prerequisites: 225, 447. Educational implications regarding assessment, teaching strategies, and adaptive materials necessary to meet the needs of school age students with mild/moderate educational needs. (20 field hours)		
452	SPEC ED PROG: SECD/TRANSITION	3 credits
Study of diagnostic prescriptive service delivery systems designed to accommodate developmental patterns of secondary-level students with exceptionalities. (20 field hours)		
453	SPEC ED PROG: MOD/INTENSIVE I	4 credits
Prerequisites: 448/548. Development of the programming strategies including assessment, inter/transdisciplinary models, family involvement, IFSP/IEP/IP development, instructional practices based upon legal/ethical principles for individuals with moderate/intensive educational needs. (20 field hours)		
454	SPEC ED PROG: MOD/INTENSIVE II	4 credits
Prerequisites: 448, 453. Advanced program for providing educational planning and intervention for individuals with moderate to intensive educational needs. Focus is on developing a comprehensive educational program which will facilitate optimum functioning and independence. (20 field hours)		
457	SPEC ED PROG: MILD/MODERATE II	4 credits
Prerequisites: 447, 451. Special educational implications regarding assessment, teaching strategies, and adaptive materials necessary to meet the needs of school age students with mild/moderate educational needs. (20 field hours)		
459	COLL & CONSULT:SCH & COMM	3 credits
Prerequisite: 225. Provides professional educators/intervention specialists with skills in collaboration and consultation for working with parents of exceptional individuals and other professionals within school/community settings.		
460	FAMILY DYN & COMM IN EDUC PROC	3 credits

Prerequisite: 225. A study of family theory and structure along with beginning techniques for working with families of students with exceptionalities, in educational and community settings.		
461	SP ED PRG: ERLY CHLDHD MOD/INT	3 credits
Prerequisites: 440, 448. Developmental patterns of young children with moderate/intensive needs (ages 3-8) and developmentally appropriate practices in programming and adaptations. (20 field hours)		
463	ASSESSMENT IN SPECIAL EDUC	3 credits
Prerequisite: 225. Prepares student to select, administer and interpret formal and informal assessment procedures and use resulting data in planning educational programs for exceptional individuals.		
464	ASSESS&EVAL ERLY CHLDH SPEC ED	3 credits
Prerequisites: 225, 448. The assessment of children three to eight and their environment who are at risk for disabilities or currently in special education.		
467	MGMT STRATEGIES IN SPEC EDUC	3 credits
Prerequisite: 225. Content emphasizing the development of application strategies with a variety of behavior management models to mediation of behaviors with exceptional individuals.		
470	CLINICAL PRACT IN SPECIAL EDUC	3 credits
Prerequisite: Permission of instructor. Corequisites: 403 and 486 or 487. Provides a pre-student teaching experience for students in the areas of assessment, program planning, instructional planning and presentation, classroom management, adaptations, and collaboration with parents and other educational professionals.		
479	SEM: INVIT STDS IN SPECIAL ED	1-2 credits
(May be repeated for a total of four credits) Topical study with a varied array of disciplinary input. Staffing will be invited members of allied and contributing professions active in management of exceptional children.		
485	STU TEACH: EARLY CHLDHD INT SP	11 credits
Prerequisites: Approval of the Student Teaching Committee, based upon approved application to student teaching, passing PRAXIS II subject test, and approved portfolio. Corequisite: 403. Planned teaching experience in schools selected and supervised by the Office of Field Experience.		
486	STU TEACH: MILD/MOD EDUC NEEDS	11 credits
Prerequisites: Approval of the Student Teaching Committee, considered based upon approved application to student teaching, passing PRAXIS II subject test, and approved portfolio. Corequisite: 403. Planned teaching experience in schools selected and supervised by the Office of Field Experience.		
487	STU TEACH: MOD/INT EDUC NEEDS	11 credits

Course Details (5620)

490	W: SCHOOL PSYCHOLOGY	1-2 credits
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Prerequisite: permission of instructor. Opportune topical experience provided periodically as needed and/or as resources become available.

491	W: SCHOOL PSYCHOLOGY	1-3 credits
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Prerequisite: permission of instructor. Opportune topical experience provided periodically as needed and/or as resources become available.

492	W: SCHOOL PSYCHOLOGY	1-3 credits
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Prerequisite: permission of instructor. Opportune topical experience provided periodically as needed and/or as resources become available.

494	SCHOOL PSYCHOLOGY INSTITUTES	1-4 credits
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Prerequisite: permission of instructor. Specifically designed learning experience for program graduate focusing on critical topics.

Course Details (5800)

492	W: READING	1-3 credits
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Individual work under staff guidance on curriculum problems; utilization of community resources; planning of curriculum units.

493	W: EXCEPTIONAL CHILDREN	1-3 credits
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Individual work under staff guidance on curriculum problems; utilization of community resources; planning of curriculum units.

494	INTERNATIONAL SCHOOL STUDY	3-6 credits
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On-the-scene study of education in foreign countries, usually by concentrating on the study of schools in one restricted geographical area.

College of Business Administration

- Cooperative Education (6000)
- General Business (6100)
- Finance for Non-Business Students (6140)
- Accountancy (6200)
- Entrepreneurship (6300)
- Finance (6400)
- Management (6500)
- Marketing (6600)
- International Business (6800)

Notes:

- Professional (6700) - Graduate-level courses only. See Graduate Bulletin.

Course Details (6000)

301

COOPERATIVE EDUCATION

0 credits

(May be repeated) For cooperative education students only. Work experience in business, industry, or governmental agency. Comprehensive performance evaluation and written report required.

Course Details (6100)

100	CAREER PLANNING IN BUSN ADMN	1 credits
<p>Examines the academic, professional, and personal skills required for a successful business career. Develops student career plan. Provides exposure to the variety of career opportunities available in public and private sector organizations.</p>		
101	BUS ISSUES IN A CONNECTED WRLD	3 credits
<p>An introductory course that examines the 'forces' that are changing how business will be conducted in the 21st century, the 'factors' that determine the success of firms and the impact of both on individuals as consumers and professionals.</p>		
200	PERSONAL LEADERSHIP SKILLS	1 credits
<p>Prerequisite: Must have completed 32 credit hours. An introductory course that will expose students to leadership theory and practice in organizations. Students will have an opportunity to self-reflect and investigate leadership styles, ethical issues and influence methods.</p>		
201	INTRODUCTION TO E-BUSINESS	3 credits
<p>Prerequisite: 24 credits. Provides a broad overview of e-business strategies, products and technologies. Discusses transformation of marketing, production and other business functions; and related legal, political, ethical and cultural issues.</p>		
350	ST: BUSINESS	1-3 credits
<p>Opportunity to study special topics and current issues in business. May be repeated with a change of subject.</p>		
495	INTERNSHIP IN BUSINESS ADMN	3 credits
<p>Prerequisite: permission of designated faculty member. On-the-job experience with public or private sector organizations in the student's major field of study. Individual assignments are approved and supervised by the designated member of the faculty in the student's major field. Periodic reports and term papers are required.</p>		
497	HONORS PROJECT IN BUSINESS ADM	1-3 credits
<p>Prerequisite: senior standing in Honors Program. Individual directed research relevant to the student's major. Group integrated symposium or an individualized study format available.</p>		
499	INDP STUDY: BUSINESS ADMN	3 credits
<p>Prerequisite: permission of designated faculty member. Provides a means for individualized study of a problem(s) or issue in the student's major field of study.</p>		

Course Details (6140)

300	INTRODUCTION TO FINANCE	3 credits
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(For non-College of Business Administration students.) Studies the sources and uses of funds for business.

341	CONTEMPORARY INVESTMENTS	3 credits
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(For non-College of Business Administration students.) Fundamentals of investing in stocks, bonds, derivatives, mutual funds, and closed-end investment companies for the individual investor.

Course Details (6200)

201	ACCOUNTING PRINCIPLES I	3 credits
Prerequisite: 24 hours of college credit. Introduction to accounting principles including accounting for revenues, expenses, assets, liabilities, equity, accounting standards and financial statements.		
202	ACCOUNTING PRINCIPLES II	3 credits
Prerequisite: 201. Information needs of management. Analysis of cash flow and financial statements. Study of product costing systems; standard costs; planning, budgeting, and control systems; overhead cost allocation; cost-volume-profit analysis; relevant costing; and capital budgeting.		
250	SPRDSHT MODEL & DECISION ANALY	3 credits
Prerequisite: Spreadsheet proficiency and either 201 or 24 semester credit hours completed. In-depth study of spreadsheet applications and databases to support decision-making and problem-solving in business and accounting.		
301	COST MANAGEMENT AND CONTROL	3 credits
Prerequisites: Admission to College of Business; 3250:200, and grades of not less than "C" in 201, 202, and 250. Product cost accumulation, cost management strategies, performance evaluation, and application of cost in business decisions.		
316	FINANCIAL APPLICATIONS DEVLPMT	3 credits
Prerequisite: 201, 6500:315. Analysis, design and development of financial and control applications. Integration of intelligent agents into financial information systems for risk assessment, control, and assurance of businesses processes.		
320	ACCOUNT SYSTMS & INTERNAL CONT	3 credits
Prerequisites: admission to College of Business Administration and grade of not less than "C" in 201 and 250. Covers analysis design, implementation, governance and evaluation of accounting systems; business process modeling and accounting transaction cycles; and internal control.		
321	FINANCIAL REPORTING & ANALYS I	3 credits
Prerequisite: admission to College of Business Administration, a grade of not less than a "C" for accounting majors in 201 or permission. Financial reporting and analysis of cash, receivables, inventories, property, plant and equipment, intangibles and liabilities. Covers U.S. GAAP, IFRS, SEC reporting, and corporate financial reporting policy. Emphasizes professional accounting research.		
322	FINANCIAL REPORTING & ANALY II	3 credits

Prerequisite: admission to College of Business Administration and a grade of not less than a "C" in 321 or permission. Financial reporting and analysis of owners' equity, investments, revenue recognition, tax allocations, pensions, leases, accounting changes, cash flows, segments, and interim periods. Covers U.S. GAAP, IFRS, SEC reporting, and corporate financial reporting policy. Emphasizes professional accounting research.

408 INTERNTL FIN REPORT & ANALYS 3 credits

Prerequisites: admission to the College of Business Administration, a grade of not less than a "C" in 201 and 202, and an international business major (6800) or 321. Covers international accounting standards, analysis of foreign financial statements, international tax issues, accounting for foreign currency, transfer pricing and international auditing standards.

410 TAXATION FOR FINANCIAL PLAN 3 credits

Provides students preparing for careers in financial planning with the necessary knowledge of federal tax law as applied to individuals and businesses. Not to be used as an accounting elective.

420 ADV FINANCIAL REPORT & ANALYS 3 credits

Prerequisite: Admission to College of Business Administration and 322. Examination of accounting theory and financial reporting practices for business combinations, partnerships, foreign operations, nonprofit entities and consolidated statements. Covers U.S. GAAP, IFRS, SEC reporting, and corporate financial reporting policy. Emphasizes professional accounting research.

430 CONTEMPORARY FEDERAL TAXATION 3 credits

Prerequisite: Admission to College of Business Administration and a grade of not less than a "C" in 201, 202 and 321 or permission. Examines current federal tax practices with an emphasis on individual taxes. Master of Taxation students will not be able to take this course to satisfy tax electives in the Master of Taxation program.

431 BUSINESS ENTITY TAXATION 3 credits

Prerequisite: admission to College of Business Administration and 430/530 or permission. Federal income tax law related to partnerships, corporations, trusts and estates; also includes an overview of federal estate and gift tax law.

440 ASSURANCE SERV & PROFES RESPON 3 credits

Prerequisites: admission to College of Business Administration, 320, 322 and 430. Examines assurance services including external auditing and professional responsibilities. Focuses on standards, professional ethics and independence requirements, and procedures used in conducting assurance services.

441 INFORMATION SYS AUDIT & CONTRL 3 credits

Prerequisites: admission to College of Business Administration, 440 and 454 or permission. Learn the fundamental concepts and practices of information systems audit control. Use of contemporary control frameworks, objectives and standards to discuss integrity, control, governance, assurance and effectiveness of financial information systems.

450 ADV SPRDSHT MODL & DECISN ANLY 3 credits

Course Details (6300)

201	INTRO: ENTREPRENEURSHIP	3 credits
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Students are exposed to career options in entrepreneurship where they learn skills related to starting or buying a small business, working for a fast growth business or corporation, family business, and franchising. Open to all university students. 3 credits.

301	NEW VENTURE CREATION	3 credits
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Prerequisite: 201 or by permission of instructor. Students work on the development of a business plan based on their chosen career path in the field of entrepreneurship (starting or buying a small business, working for a fast growth business or corporation, new product, family business, or franchising). Open to all university students.

360	ENTREPRENEURIAL FIELD PROJECT	3 credits
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Prerequisites: 201 or permission of the instructor. A practical field experience where students work in a consulting role on an actual entrepreneurial project involving a small business development center, a small business incubator, or an existing small business.

450	BUSINESS PLAN DEVELOPMENT	3 credits
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Prerequisite: 301. Students will work independently, with mentoring from the instructor, on an entrepreneurial project. Students will gain hands-on experience in developing a business plan for starting, acquiring, or expanding a business.

Course Details (6400)

200	FOUNDATNS OF PERSONAL FINANCE	3 credits
Prerequisites: 3250:200; 3450:145. Explores application of finance concepts in personal finance with emphasis on the personal financial planning process.		
220	LEGAL & SOC ENVIRON BUSINESS	3 credits
Prerequisite: completion of 32 credits. Explores the legal and social environment in which modern business must function. The legal system, public and private law, and contemporary social and ethical issues are addressed.		
301	PRINCIPLES OF FINANCE	3 credits
Prerequisites: 3250:200; 3450:145; 6200:201 and 250. An overview of the financial system and the major decision areas of the financial manager such as capital budgeting, financing, and working capital management.		
302	INTERMEDIATE CORPORATE FINANCE	3 credits
Prerequisite: 6400:301. This second course in corporate finance builds upon 6400:301 to provide students with an analytic foundation for careers in business.		
310	CORPORATE FINANCIAL MANAGEMENT	3 credits
Prerequisites: 6200:250, 6200:201. The objective of this course is to build on the foundation of your initial business finance course, expanding your financial analysis skills and deepening your knowledge of finance theory.		
321	BUSINESS LAW I	3 credits
Prerequisite: completion of 64 credits. Discussions designed to develop legal reasoning within substantive areas of contractual obligation, agency relationships, partnerships, corporations, accountant's legal responsibility, federal securities regulation and antitrust law.		
322	BUSINESS LAW II	3 credits
Prerequisite: completion of 64 credits. Applications of Uniform Commercial Code in sales, commercial paper and secured transactions. Additional discussions include property, wills, estates, trusts, bailments, insurance, suretyship, bankruptcy, and labor law.		
323	INTERNATIONAL BUSINESS LAW	3 credits
The law and international commercial transactions. Among the subjects covered are sovereignty; treaties; agreements; antitrust practices; property rights; international arbitration.		
338	FINANCIAL MARKETS & INSTITUTNS	3 credits

Course Details (6500)

301	MGMT: PRINCIPLES & CONCEPTS	3 credits
Prerequisites: 48 completed credit hours. An interdisciplinary approach to the study of the basic principles of general management theory and practice.		
302	ORGANIZ BEHAVR & LDRSHP SKILLS	3 credits
Prerequisite: 301. Investigation of applications of behavioral and social sciences as they relate to individual, group behavior in organizations.		
304	BUSINESS STATISTICS	3 credits
Prerequisite: 3450:145 and 6200:250. Introduces statistical methods to support quantitative decision analysis for solving business problems. Includes probability, sampling, estimation, hypothesis testing, analysis of variance, and linear regression.		
305	BUSINESS ANALYTICS	3 credits
Prerequisites: 304. Studies core statistical techniques; data retrieval, analysis and mining; and decision modeling to effectively persuade in the project-oriented world of data-driven decisions.		
310	BUSINESS INFORMATION SYSTEMS	3 credits
Prerequisites: 48 completed credit hours and 6200:250 or equivalent. Provides a technical and organizational foundation for understanding the use and importance of information systems and information technology in today's business environment.		
315	APPL DEVLPMNT FOR BUS PROCESSES	3 credits
Prerequisite: 6200:250 and 48 completed hours. Analysis and automation of business operations and processes. Development of applications based on a simulated enterprise-wide database.		
324	DATABASE MGMT FOR INFO SYSTEMS	3 credits
Prerequisites: 6200:250 and 48 completed hours. An introduction to database design and management, including data modeling, relational theory, Structured Query Language, and database applications, development, using database management systems.		
325	SYSTEMS ANALYSIS & DESIGN	3 credits
Prerequisites: 324. An introduction to the techniques of business modeling, systems design, and implementation, including the application of software engineering tools in support of modeling and code generation.		
330	PRIN OF SPLY CHAIN & OPER MGMT	3 credits

Prerequisites: Completion of 48 credit hours. An overview of the terminology, fundamental concepts and scope of responsibility encountered in the fields of supply chain and operations management.		
333	SUPPLY CHAIN & OPER ANALYSIS	3 credits
Prerequisites: 222 or 304; and 330. Application of quantitative models in the analysis and design of systems in the supply chain and in manufacturing and service operations environments.		
334	SERVICE OPERATIONS MANAGEMENT	3 credits
Prerequisite: 330. An overview of the fundamental terminology, principles, concepts and problem solving methods encountered in the contemporary field of service operations management.		
341	HUMAN RESOURCE MANAGEMENT	3 credits
Prerequisite: one course in psychology or sociology and co-requisite 301. Principles, policies, and practices in administering functions of recruiting, selecting, training, compensating, and appraising human resources of organizations.		
342	EMPLOYEE AND LABOR RELATIONS	3 credits
Prerequisite: 64 completed credit hours. Co-requisite: 6500:341 if not previously completed. Analysis of management, union and employee objectives, attitudes and strategy, as they affect conduct of business and economy. Stress placed on group assigned readings and reports.		
350	FUND ENTERPRISE RESOURCE PLAN	3 credits
Prerequisites: 6200: 250 Computer Applications for Business and 48 completed credit hours. The enterprise wide process of decreasing operating costs, rationalizing the supply chain, improving management control, and decreasing cycle time by implementing ERP based solutions		
390	SUPPLY CHN MODELNG & DECIS MAK	3 credits
Prerequisite: 6200:250, 6500:304 or 6500:221 and 6500:330. Spreadsheet based, example-driven approach to develop models and methodologies for supply chain analysis and decision making.		
410	SEL T: ENTREPRENEURSHIP	1-3 credits
Prerequisites: Must be admitted to a 4-year degree granting college; upper-college or graduate standing and 301 or 600 or equivalent. Facilitates comparative international study of entrepreneurship, introduction of entrepreneurship to large organizations, or application of student's entrepreneurial skills. Six hour limit.		
420	MANAGEMENT OF DATA NETWORKS	3 credits
Pre-requisites: Must be admitted to a 4-year degree granting college; 310 and 64 completed hours. Principles of the design and management of data networks for business communications.		
421	OPERATIONS RESEARCH	3 credits
Prerequisite: Must be admitted to a 4-year degree granting college; 330. Examines the use of operations research techniques in managerial decision-making processes; constrained linear optimization, non-linear optimization, network analysis, queuing theory, simulation.		

425	DECIS SUPP W DATA WRHS/MINING	3 credits
Prerequisite: Must be admitted to a 4-year degree granting college; 324 and 305 or (221 and 222). Examines managerial and technical aspects of business decision-making based on the use of data warehouses, on-line analytical processing (OLAP) and data mining.		
426	E-BUS APPLICATION DEVELOPMENT	3 credits
Prerequisite: Must be admitted to a 4-year degree granting college; 6200:250 and 64 completed credit hours. Students will gain an understanding of issues and skills related to web application design and development.		
427	SYSTEMS INTEGRATION	3 credits
Prerequisite: Must be admitted to a 4-year degree granting college; 6500:315. The course provides an understanding of issues and underlying application integration. Topics include coverage of middleware technologies, B2B standards and XML.		
433	SUPPLY CHAIN LOGISTIC PLANNING	3 credits
Prerequisite: Must have been admitted to a four-year, degree granting college; 64 completed credit hours and 330. Emphasizes the importance of planning in the development of the domestic and global supply chain logistics system that includes transportation, inventory, warehousing and procurement.		
434	PRODUCTION PLANNING & CONTROL	3 credits
Prerequisite: Must be admitted to a 4-year degree granting college; 64 completed credit hours and 333. Coverage of materials management, production planning, scheduling and control. Integrates material from previous courses, provides overall framework including use of computer and quantitative methods.		
435	QUALITY MANAGEMENT & CONTROL	3 credits
Prerequisites: Must be admitted to a 4-year degree granting college; 64 completed credit hours and 330. Emphasis on statistical techniques essential to controlling product quality for both measurement and attribute data. Includes control chart methods and acceptance sampling plans.		
442	COMPENSATION MANAGEMENT	3 credits
Prerequisite: Must be admitted to a 4-year degree granting college; 64 completed credit hours and 341. Focus on the design, implementation and evaluation of employee compensation and benefits programs.		
443	HUMAN RESOURCE SELECT & STAFF	3 credits
Prerequisite: Must be admitted to a 4-year degree granting college; 64 completed credit hours and 341. Advanced study of selection and staffing within business organizations. Emphasis on current research and practice. Activities include projects, case studies, interaction with human resource professionals.		
457	INTERNATIONAL MANAGEMENT	3 credits
Prerequisites: Must be admitted to a 4-year degree granting college; upper-college standing and 301 or equivalent. Management practices and techniques of international business organizations. Focus on structure and processes of resource allocation, design and technology, and the impact of culture.		

458	ST: MANAG ARBIT, MED, & CONCIL	1-3 credits
Prerequisites: Must be admitted to a 4-year degree granting college; upper-college or graduate standing and 301 or 600 or equivalent. Study of the various methods and mechanisms by which management can understand and deal with internal and external conflict. Six hour limit.		
459	SEL T: INTERNATIONAL MANAGEMNT	1-3 credits
Prerequisites: Must be admitted to a 4-year degree granting college; upper-college standing; 301 or equivalent; and 457; or permission of instructor. Selected topics in international management focus on historical or contemporary managerial, production and organizational issues. Includes international simulation game. Six hour limit.		
460	ST: MANAGEMENT	3 credits
Prerequisite: Must be admitted to a 4-year degree granting college. Exploration of advanced topics of interest both to the student and professor. Many special applications, case studies, outside speakers, projects in conjunction with local industries.		
471	MANAGEMENT PROJECT	3 credits
Prerequisites: Admission to College of Business Administration and 6500:302 and 6500:310, Human Resource Management option: 342, 442, 443*; Supply Chain/Operations Management option: 333, 390, 433; Information Systems Management option; 325, 420, 425, 427 and one from 333, 341, 426, 6200:454**; e-Business Technologies option: 324, 420, 426, 6100:201 and two from 341, 390, 425, 6600:425, 6200:454*. Students develop skills in field-based management problem solving, project management, and requirements analysis under conditions of uncertainty in a collaborative interdisciplinary team environment.		
476	SUPPLY CHAIN SOURCING	3 credits
Prerequisite: Must be admitted to 4-year degree granting college; 330. Introduces the student to fundamental sourcing concepts as well as the scope of responsibility and critical roles of the sourcing function within the principal organization in a supply chain network.		
477	MANAGEMENT SIMULATION	1 credits
Prerequisite: 301. Simulation of management practices through computerized game or experiential exercise.		
478	HUMAN RESOURCE SIMULATION	1 credits
Prerequisite: 341. Simulation of human resource practices through computerized or experiential exercises.		
479	OPERATIONS SIMULATION	1 credits
Prerequisite: Must be admitted to a 4-year degree granting college; 333. Simulation of operations management practices through computerized or experiential exercises.		
480	INTRO: HEALTH-CARE MANAGEMENT	3 credits

Prerequisites: Must be admitted to a 4-year degree granting college; upper-college or graduate standing (Students who are required to take 301 or 600 or have completed 301 or 600 or equivalent are ineligible to take this course for credit). Introductory course for health professionals covering principles and concepts of management applied to health services organizations. For those registered for graduate credit, a major paper is required.

482 HEALTH SERVICES OPERATIONS MGT 3 credits

Prerequisites: Must be admitted to a 4-year degree granting college; upper-college standing and 301 or 480 or equivalents, or graduate standing and 580 or 600 or equivalent, or permission of instructor. (Students who have completed 330 are ineligible to take this course for credit). Application of production and operations management concepts and techniques in health services organizations.

485 ST: HEALTH SERVICES ADMINSTRTN 1-3 credits

Prerequisite: Must be admitted to a 4-year degree granting college; permission of instructor. Special topics in health services administration (e.g., management) focusing on historical and/or contemporary managerial organizational and/or policy/strategy issues as related to health-care organizations and health-care systems. Separate topics may be repeated for a maximum of six credits. For those registered for graduate credit, a major research paper is required.

490 STRATEGIC MANAGEMENT 3 credits

Prerequisites: Admission to College of Bus Admin, 97 credits in which 15 credit hrs, or half of major coursework must be completed, along with the CORE; and 6200:202, 250; 6400:301 or 310, 220 or (321 and 322); 6500:305 or 222, 330 and 301; 6600:300; 6800:305. Capstone course. Integrates the core business disciplines (accounting, economics, finance, management, marketing) through the use of case analysis. Objective and strategy formulation from an administrative viewpoint and international dimension. Emphasis on oral and written communications.

491 W: MANAGEMENT 1-3 credits

Prerequisite: Must be admitted to a 4-year degree granting college. (May be repeated with permission of instructor or department) Group studies of special topics in management. May not be used to meet undergraduate major requirements in management. May be used for elective credits only.

Course Details (6600)

205	MARKETING PRINCIPLES	3 credits
Prerequisites: 24 hours of college credit. A general survey of marketing activities including analysis of markets, competition, consumer behavior, information systems, and the assessment of product, price, distribution, and promotion strategies.		
275	PROFESSIONAL SELLING	3 credits
Prerequisite: 25 credits or permission from instructor. Builds communication skills while learning about buyer needs, persuasion and social influence, prospecting, making sales presentations, persuading, overcoming sales resistance, closing sales and building relationships.		
335	MARKETING RESEARCH	3 credits
Prerequisites: 300, 6500:221 or 6500:304. Student will gain hands-on experience in the understanding and use of appropriate tools and techniques for analyzing and presenting information derived from marketing databases. Includes problem definition and solution approach to marketing research decisions.		
355	BUYER BEHAVIOR	3 credits
Prerequisite: 300. Interdisciplinary approach to the analysis of the nature of consumer buying behavior. Economical, social, and psychological influences on consumers' decision-making processes are examined.		
375	MARKETING & SALES ANALYTICS	3 credits
Prerequisite: 335. Develop the skills to provide clients with actionable marketing intelligence gleaned from the customer, sales force, channel, promotion and competitor databases that are now pervasive in the business world.		
432	INTEGRATED MARKETING COMMUNICATION	3 credits
Prerequisite: Must be admitted to a four-year, degree granting college and 300 and 355. This course stresses the need for marketers to create consistent coordinated communication programs using all elements of the promotion mix including advertising, public relations, sales promotion, social media and personal selling.		
434	DIGITAL IMC	3 credits
Prerequisites: Must be admitted to a four-year, degree granting college and 300, 432. Focuses on the planning and execution of the promotion mix in the digital environment through online and mobile advertising, sales promotion, social media, blogging, website design and SEO.		
436	E-COMMERCE	3 credits

Prerequisites: Must be admitted to a four-year, degree granting college and 300, 355, 375. This course explores the growing role of E-commerce in firms' marketing mix and the complementary roles that customer relationship management and direct marketing play in this new environment.

438 MEDIA STRATEGY 3 credits

Prerequisites: Must be admitted to a four-year, degree granting college and 300 and 432. A message delivery course that teaches students to develop, schedule and budget effective media plans that integrate different type of media (television, radio, print, direct mail, social media and the Internet) to maximize IMC effectiveness.

440 BRAND MANAGEMENT 3 credits

Prerequisite: Must be admitted to a four-year, degree granting college and 300 and 355. This course studies the process of building and evolving successful brands. It focuses on brand equity development by creating a distinct brand identity, impeccable brand integrity and emotional resonance. It also emphasizes brand evolution through incremental and radical innovation.

445 CREATIVE LABORATORY 3 credits

Prerequisites: Must be admitted to a four-year, degree granting college and 355 and 432. The execution of communication strategy is essential to the success of IMC campaigns. This course focuses on the process of translating Strategy into effective creative.

460 B2B MARKETING 3 credits

Prerequisite: Must be admitted to a four-year, degree granting college and 300. This course provides a thorough grounding in industrial and business-to-business marketing. While many of the concepts are similar to those used in consumer marketing, there are major differences. This course will explore both the similarities and the differences.

475 BUSINESS NEGOTIATIONS 3 credits

Prerequisite: Must be admitted to a four-year, degree granting college and 25 credits or permission from instructor and 6600:275. Examines business negotiation principles and practices, and builds skills in the process of negotiating business agreements within a global environment.

478 ADVANCED PROFESSIONAL SELLING 3 credits

Prerequisite: Must be admitted to a four-year, degree granting college and 275. Broadens students understanding of the sales process looking at complex sales and solutions selling. Intense lab work focusing on communication skills, asking the right questions to fully understand needs, helping client turn implicit needs into explicit needs, conducting B2B and complex negotiations, and understanding how to create win-win solutions.

480 SALES MANAGEMENT 3 credits

Prerequisite: Must be admitted to a four-year, degree granting college and 300. Develops analytical and managerial skills through case studies and other learning activities relating to the organization, selection, training, motivation, and control of a domestic or global sales force.

491 PROFESSIONAL WORKSHOPS IN MARKETING 1-3 credits

Prerequisites: Must be admitted to a four-year, degree granting college and 275, 335, 355, 375. Special topics in marketing taught primarily by professionals with the objective of adding depth and an applied perspective to marketing concepts, issues, software & databases, problem solving and career planning. (May be repeated for up to six credits.)

496	ST: MARKETING	1-3 credits
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Prerequisite: Must be admitted to a four-year, degree granting college and 300. (May be repeated for a total of three credits) Provides an opportunity to examine special topics and/or current issues in the fields of marketing, sales retailing or advertising.

499	MARKETING CAPSTONE PROJECT	3 credits
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Prerequisites: Must be admitted to a four-year, degree granting college and for all Marketing majors: 275, 335, 355, 375. PLUS for Sales Management majors: 475, 480; For IMC majors: 432, 438; For Marketing Management majors: 440, 460. Student teams comprised of members from each marketing major will refine a live Client marketing strategy (product, price, distribution and promotion) and develop complementary integrated marketing communication and sales force plans.

Course Details (6800)

305	INTERNATIONAL BUSINESS	3 credits
Prerequisites: 48 hours of college credit. A basic course in international business which can also provide a platform for more specialized business courses.		
406	TRAVEL ABROAD	0 credits
Prerequisite: Must have been admitted to a four-year, degree granting college. Approved travel to a foreign country per the requirements of the International Business major.		
421	FOREIGN MARKET ENTRY	3 credits
Prerequisite: Must have been admitted to a four-year, degree granting college and 305 or permission of instructor. A study of the business processes and procedures associated with successful foreign market entry. International Business practices around the world related to successful and unsuccessful entry are compared and contrasted. Letters of Credit, Import/Export Documentation and Global Shipping Standards are examined.		
422	FOREIGN MARKET DISTANCE ANALYSIS	3 credits
Prerequisite: Must have been admitted to a four-year, degree granting college and 305, 406 or permission of instructor. The cultural, administrative, geographic, and economic difference between home and host countries can dramatically impact the success of foreign market entry by the home country. Students will learn how to successfully identify and respond to these differences.		
496	ST: INTERNATIONAL BUSINESS	1-3 credits
(May be repeated for a total of three credits) Prerequisite: Permission of instructor. Provides the opportunity to study special topics and current issues in international business. Note: Other international business courses are offered under departmental course numbers. They are 6200:408, 6400:323, 6400:481, 6500:457, 6500:459 and 6600:385.		

College of Health Professionals

- Speech-Language Pathology and Audiology (7700)
- Social Work (7750)
- Nutrition and Dietetics (7760)
- Cooperative Education (8000)
- Nursing (8200)

Notes:

- Master of Public Health (8300) - Graduate-level courses only. See Graduate Bulletin.

Course Details (7700)

101	AMERICAN SIGN LANGUAGE I	3 credits
Introduction to American Sign Language: vocabulary building, beginning development of fingerspelling skills, receptive/expressive conversational skills.		
102	AMERICAN SIGN LANGUAGE II	3 credits
Prerequisite: 101. Continued development of skills in American Sign Language: vocabulary building, further development of fingerspelling skills, receptive/expressive conversational skills.		
110	INTRO TO DISORDERS OF COMMUNIC	3 credits
Overview of various types of speech disorders; their incidence, etiology and characteristics. Basic concepts and principles underlying speech pathology.		
201	AMERICAN SIGN LANGUAGE III	3 credits
Prerequisite: 102. Continued development of skills in American Sign Language: vocabulary building, fingerspelling skills, receptive/expressive conversational skills, and linguistic features of ASL.		
202	AMERICAN SIGN LANGUAGE IV	3 credits
Prerequisite: 201. Further fluency development of expressive/receptive communication, fingerspelling, and linguistic features of ASL.		
210	INTRO TO CLINICAL PHONETICS	4 credits
Introduction to International Phonetic Alphabet. Transcription of normal speech. Overview of articulatory and acoustic phonetics. Introduction to distinctive features.		
215	INTRO:HEARING & SPEECH SCIENCE	4 credits
Prerequisite: 210. Introductory course covering the human hearing system and acoustics of hearing as well as principles involved in the production, transmission, and reception of the speech signal.		
222	SURVEY DEAF CULTURE IN AMERICA	2 credits
The deaf experience in America including historical, educational, legal, social, and occupational developments.		
230	LANGUAGE SCIENCE & ACQUISITION	4 credits
Prerequisite: Speech-Language Pathology and Audiology majors only. An introduction to language science and the study of the language acquisition process. The characteristics and explanations of language development will be presented.		

245	FRST RESPOND TO THE DEAF COMM	4 credits
Prerequisites: 101, 102, 201. Completion of ASL 201 with C or better. This course is required for the HSHS Manual Communication Certificate. It will emphasize ASL skills practical to first responders' needs.		
295	DIRECT EXPERIENCES IN HOSPITAL	3 credits
Prerequisite: permission of adviser. Individual learning experiences for students with patients, their families and the hospital personnel in various hospital settings under the direction of hospital and University staff.		
321	ARTICULATORY & PHONOLOGIC DISRD	4 credits
Prerequisites: 110, 210. Study of disorders of articulation/phonology, including normal phonological developments, and assessment and remediation of phonological disorders.		
330	LANGUAGE DISORDERS	4 credits
Prerequisite: 230. Etiology, identification, evaluation, intervention, remediation of symbolic, cognitive, interpersonal language disorders of children. Disorders viewed as correlates or sequelae of central nervous system dysfunction or emotional disturbance.		
335	PRINCIPLES OF AUDIOLOGY	4 credits
Prerequisite: 215. Introduction to basic audiometric tests, principles of speech audiometry, masking, and impedance audiometry, "test battery" approach.		
345	AUDIOLOGIC TREATMENT	4 credits
Prerequisite: 215. Introduction to philosophy and methods of aural rehabilitation for children and adults. Includes methods of speech reading, auditory training, speech conservation, hearing aid use and combined visual and auditory approaches.		
365	ANATOMY & PHYS OF SPCH & HEAR	3 credits
Prerequisites: 3100:265. Corequisites: 366. Study of the anatomy and physiology of organs directly and indirectly responsible for production of speech and perception of acoustical signals.		
366	ANATOMY & PHYSIOLOGY LAB	1 credits
Corequisites: 365. Laboratory to accompany lecture, includes hands-on experience with a variety of laboratory materials, primarily models and virtual dissection.		
422	ORGANIC DISORDERS OF COMMUN	4 credits
Prerequisites: 110 and 3100:265, or permission of instructor. Surveys communication disorders that accompany acquired neurological impairments and neurodevelopmental syndromes. Introduces neurological and genetic models, classification systems, diagnostic and treatment procedures.		
430	ASPECTS OF NORMAL LANGUAGE DEV	3 credits

Prerequisite: 7400:265, comparable course or permission of instructor. Focuses on hospital as a major social institution; introduces procedures and functions of the hospital; roles played by various hospital personnel plus cursory knowledge of medical terminology, common childhood diseases, illnesses and injuries.

485 TCH & LRN STRATEG SP-LANG PATH 2 credits

Current practice related to clinical intervention designed for individuals with developmental disabilities. Explores the use of the natural environment and the computer as intervention tools.

494 INTERN: GUID EXPER CH-LIFE PRG 8 credits

Prerequisite: 455. Field experience in a child-life program at an approved pediatric facility under the supervision of Child Life Specialists.

496 SEN HNRS P:SP.PATH & AUDIOLOGY 1-3 credits

(May be repeated for a total of six credits) Prerequisites: enrollment in the Honors Program, senior standing and major in speech-language pathology and audiology.

Course Details (7750)

270	DIVERSITY AND SOCIAL WORK	3 credits
Introductory course explores issues related to poverty and minority issues as they relate to at-risk populations.		
275	INTRO: SOCIAL WORK PRACTICE	3 credits
Introduces students to concepts, settings, and vulnerable populations related to the field of social work. Emphasis placed on purposes, values, ethics, knowledge, and skills that characterize the professional social worker. Provides an overview of theoretical and practical knowledge about the social work profession needed for entry levels of practice in social work.		
276	INTRODUCTION TO SOCIAL WELFARE	3 credits
Survey of field of social welfare; place of social work profession within human services institutions of United States. Introduction of basic concepts relating social welfare institutions and social work to society.		
401	SOCIAL WORK PRACTICE I	3 credits
Prerequisite: Social Work major; Corequisite 405. Basic concepts and methods of Generalist social work practice, with an emphasis on understanding and working with individuals.		
402	SOCIAL WORK PRACTICE II	3 credits
Prerequisite: 401, 405; or permission of instructor. Concepts and methods of social work practice particularly relating to understanding and working with groups in various settings in our society.		
403	SOCIAL WORK PRACTICE III	3 credits
Prerequisite: 401, 405, or permission of instructor. Development of understanding and practice methods for utilization of community organization and social planning as social work process in assessing problems and developing program to meet needs.		
404	SOCIAL WORK PRACTICE IV	3 credits
Prerequisite: 401, 405, or permission of instructor. Professional social work practice with families in social services; the dynamics of family systems, assessment of family function and dysfunction, professional helping processes.		
405	PRACTICE I SKILLS LAB	3 credits
Prerequisites: 270, 276, 427, 3100:103, 3700:100, 3750:100, 3850:100 and 3250:100 or 200 or 2040:247; corequisite: 401. Prepares students for beginning generalist social work practice and proves a context to apply and evaluate generic knowledge base, values, ethics, and skills common to practice with client systems.		

411	WOMENS ISS SOC WORK PRACTICE	3 credits
Prerequisite: 401 or permission of instructor. Social work practice, knowledge and skill, social welfare institutions and social policy in relation to women's issues and concerns in the United States.		
421	FIELD EXPERIENCE SEMINAR I	2 credits
Prerequisites: 401 and permission of the instructor. Corequisite: 493. The first of two consecutive courses that assists students in making the transition from classroom learning to experiential learning in the field practicum.		
422	FIELD EXPERIENCE SEMINAR II	2 credits
Prerequisites: 421 and 493; Corequisite: 494. The second of two consecutive courses, this course assists students in integrating, synthesizing, and applying classroom learning to field experiences and assignments.		
425	SOCIAL WORK ETHICS	3 credits
Prerequisite: Social Work major, permission of instructor. Social Worker's code of ethics as applied to practices, problems and issues in social work.		
427	HUMAN BEHVR & SOCIAL ENVIRON I	3 credits
Social work perspective on human development across the life cycle. Human diversity approach consistent with the needs of social work students preparing for practice.		
430	HUMAN BEHV & SOCIAL ENVIRON II	3 credits
Prerequisite: Social Work major, 427, or permission of instructor. Examination of larger social systems including families, groups, neighborhoods, and organizations. Focuses on the unique systemic characteristics of each system and its development.		
440	SOCIAL WORK RESEARCH I	3 credits
Prerequisites: Social Work major or permission of instructor. Overview of scientific inquiry and the research process as it applies to the field of social work. Emphasis is placed on the various social worker roles in relation to research.		
441	SOCIAL WORK RESEARCH II	3 credits
Prerequisite: 440 or permission of instructor. A continuation of Social Work Research I with a focus on applying research concepts. Includes content on the evaluation of practice outcomes and the use of computers in data analysis.		
445	SOC POLICY ANALY-SOCIAL WORKER	3 credits
Prerequisite: Social Work major, permission of instructor. Description, analysis and construction of social policy in social services; to understanding forces and processes which establish or change social policies, to predict consequences of social policies and to establish goals for social policy development; integrated into effective social work methodology.		

450	SOCIAL NEEDS & SERVICES: AGING	3 credits
Prerequisite: 401 or permission of instructor. Application of knowledge and principles of professional social work practice to understanding, development and provision of social services to meet needs of aging and later mature individuals, families and communities and institutions serving them and their relatives.		
451	SOCIAL WORK IN CHILD WELFARE	3 credits
Prerequisite: 401 or permission of instructor. In-depth exploration of structure and functioning of social services designed to help children, and of practice of social work in child-welfare settings. Consideration of supportive, supplementary and substitutive services.		
452	SOCIAL WORK IN MENTAL HEALTH	3 credits
Prerequisite: 401 or permission of instructor. Issues, organization, development and methodologies of current professional social work practice in mental-health settings.		
454	SOCIAL WORK-JUVENILE JUSTICE	3 credits
Prerequisite: 401 or permission of instructor. The theory and practice of social work in the juvenile justice systems of the United States. Traditional procedures and recent developments, prevention, diversion and community outreach, legal concerns, case management, institutional functioning.		
455	SOC WRK PRAC WITH AFR AMER FAM	3 credits
Prerequisite: 401 or permission of instructor. Contemporary problems facing African American families; male-female relationships, single parent households, African American teens and elderly, public policy, theoretical models, explaining development of the African American family.		
456	SOCIAL WORK IN HEALTH SERVICES	3 credits
Prerequisite: 401 or permission of instructor. Policies, programs and practice in health-care settings: short-term, intermediate and long-term hospitals, out-patient services, emergency services, clinics, visiting nurse services, nursing homes, pediatric services, self-help organizations.		
459	SOC WRK WITH MENTALLY RETARDED	3 credits
Prerequisite: 401 or permission of instructor. Application of social work principles in the provision of social services to meet the needs of the mentally retarded and developmentally disabled and their families.		
470	LAW FOR SOCIAL WORKERS	3 credits
Prerequisite: 401 or permission of instructor. Basic terminology, theories, principles, organization and procedures of law will be explored along with the relationships between social work and law and comparisons of the theoretical bases of the two professions.		
471	CRISIS INTERVENTION	3 credits
This elective course focuses on knowledge/skills required by social workers dealing with people in crisis. Impact of crises on the human personality will be discussed.		
472	CHILD WELFARE II	3 credits

Course Details (7760)

132	EARLY CHILDHOOD NUTRITION	3 credits
<p>Emphasis on nutrition as component of Early Childhood programs. Nutrition principles discussed in relation to self and young children. Prenatal and infant nutrition studied. Food as learning experience, menu planning, purchasing, sanitation, food labeling, storage and parent involvement included. For Family and Child Development Option, and an educational technology student.</p>		
133	NUTRITION FUNDAMENTALS	3 credits
<p>Study of basic nutrition concepts, contemporary issues, controversies; emphasis on macro/micro nutrient requirements for healthy individuals; analysis of a student's dietary intake. Online section available.</p>		
141	FOOD FOR THE FAMILY	3 credits
<p>Prerequisite: Permission of instructor. Application of nutrition to meal planning; problems in selecting, budgeting and preparing food; meal service.</p>		
250	FOOD SCIENCE LECTURE & LAB	4 credits
<p>Prerequisites: 133, 3150:110, 111. Study of the chemical and physical structure of food. Scientific and aesthetic principles involved in the selection, storage and preparation of foods. Lecture and laboratory combined.</p>		
310	FOOD SYSTEMS MANAGEMENT I	4 credits
<p>Prerequisites: 250, 6200:201 or 2420:211 or permission; corequisite: 7760:315. Basic theoretical concepts in the management of dietetic food service systems and the practical application of principles and procedures in quantity food production and service.</p>		
315	FOOD SYSTEMS MGMT I CLINICAL	2 credits
<p>Prerequisite: 250; corequisite: 310. Development of quantity food preparation and supervisory skills in community agencies; identification of functions and resources involved in the management of food service systems.</p>		
316	SCIENCE OF NUTRITION	4 credits
<p>Prerequisites: 3100:202, 3150:113, or instructor permission. In-depth characterization of composition, metabolism, physiological functions and interrelationships of nutrients. Analysis and interpretation of current literature; assessment of nutrition counseling techniques.</p>		
320	CAREER DECISIONS IN NUTRITION	1 credits
<p>Exploration of the nutrition/dietetics profession, including academic/internship routes, career opportunities, professional concepts and attributes. Self-assessment and goal setting with beginning portfolio development.</p>		

321	EXPERIMENTAL FOODS	3 credits
Prerequisites: 250; 3150:110, 111, 112, 113. Theory and methods in the experimental study of foods. Sensory evaluation and instrumental analysis of food quality. Individual research emphasized. Lecture/Laboratory.		
328	MEDICAL NUTRITION THERAPY I	4 credits
Prerequisites: 133 or 316, 426, 443 or permission. Analysis of health care concepts and the medical nutrition therapy relationship. Consideration of nutritional implications of pathological conditions and alterations to diet for specific health issues or disorders.		
329	MEDICAL NUTRITION THERAPY I CLINICAL	2 credits
CP Students only. Corequisite 7760:328. Supervised practice experience in area health care facilities for application of principles learned in 7760:328.		
340	MEAL MANAGEMENT	3 credits
Prerequisites: 250 or 141. Emphasis is on meal design, etiquette, nutritional adequacy, and application of management principles. Resource management is applied to all course activities, including restricted financial and special diet situations.		
400	NUTRITION COMMUN & EDUC SKILLS	4 credits
Prerequisites: 133 or 316. Theory and development of communication and education skills essential to dietetics practice; interpersonal communication; interviewing; nutrition counseling; education techniques, media, and current technology.		
403	ADVANCED FOOD PREPARATION	3 credits
Prerequisites: 141 or 250 or permission. Study of advanced techniques of food preparation. Introduction to and interpretation of classic and foreign cuisines. Emphasis on individualized experiences, skill development and evaluation of procedures and results.		
412	INSTITUTIONAL MANAGEMENT	3 credits
Organization and management in administration of food service systems; problems in administration of food service systems; problems in control of labor, time and cost. Field experience in food production. Study of regulations affecting the food industry, such as food labeling, nutrition labeling, food safety, and adulteration. Course includes discussion of regulatory agencies and their impact on the food industry.		
413	FOOD SYSTEMS MANAGEMENT II	3 credits
Prerequisite: 310. Advanced concepts in management of dietetic service systems relating to achievement of nutritional care goals.		
414	FOOD SYSTEMS MGMT II-CLINICAL	3 credits
Prerequisite: 315; corequisite: 413. CP students only. Application of advanced food systems management concepts in community dietetic food service facilities; preparation for entry-level staff positions as administrative dietitians; clinical experience for 24 hours per week for 10 weeks of semester.		

421	SP: NUTRITION AND DIETETICS	1-3 credits
Additional study or apprentice experience in specialized field or preparation; group and individual experimentation.		
424	NUTRITION IN LIFE CYCLE	3 credits
Prerequisite: 316 or 426, or permission of instructor. Study of the physiological basis for nutritional requirements; interrelating factors which affect growth, development, maturation and nutritional status from conception through the elderly years.		
426	HUMAN NUTRITION	3 credits
Prerequisites: 133, 3100:202, 203, 3150: 112, 113 or instructor's permission and a minimum 2.8 cumulative GPA. Corequisite: 443. Application of principles nutrition, metabolism and assessment. Analyses and interpretation of current literature. Open to dietetics majors only.		
428	MEDICAL NUTRITION THERAPY II	5 credits
Prerequisite: 328. Continuation of Medical Nutrition Therapy I with emphasis on more complex metabolic and pathological conditions with nutrition therapy strategies.		
429	MEDICAL NUTRITION THERAPY II CLINICAL	3 credits
Prerequisites: 7760:329, CP students only. Corequisite: 7760:428. Supervised practice experience in health care facilities with application of principles of medical nutrition therapy learned in 7760:328, 428.		
430	COMPTR ASSTD FOOD SERVICE MGMT	3 credits
Use of computer programs in application of management concepts for food service systems.		
443	NUTRITION ASSESSMENT	3 credits
Prerequisites: 133, 3100:202, 203, 3150:112,113; Corequisites: 426 or instructor permission. Application of principles of nutrition and assessment. Analysis and interpretation of current literature. Open to dietetics majors only.		
444	NUTR MED SCI LT CARE -CLINICAL	2 credits
Prerequisite: CP students only, 328 and 329. Clinical experiences in long term care facilities for application of principles of nutritional care learned in 7760:328.		
447	SR SEM: CRIT ISSUES-NUT & DIET	1 credits
Prerequisite: Senior standing. Consideration of the nutrition/dietetic professions and the impact on the health and wellness of individuals, families, and the environment. Analysis of challenges facing the profession.		
470	FOOD INDUS: ANALYS & FLD STDY	3 credits
Prerequisite: 250 or permission. Role of technology in extending the food supply. Chemical, physical and biological effects of processing and storage, on-site tours of processing plants.		

474	CULTURAL DIMENSIONS OF FOOD	3 credits
An examination of cultural, geographical and historical influences on development of food habits. Emphasis on evolution of diets; effects of religion, education, gender roles, media.		
476	DEVELOPMENTS IN FOOD SCIENCE	3 credits
Prerequisite: 250. Advanced study of the chemistry and physics of food components affecting characteristics of food. Critical evaluation of current basic and applied research emphasized.		
480	COMMUNITY NUTRITION I	3 credits
Prerequisites: 316 or 426. Corequisite: 481 for CP students only. Major food and nutrition related problems in the community. Emphasis on community assessment, program implementation and evaluation, and rationales for nutrition services.		
481	COMMUNITY NUTRITION I-CLINICAL	1 credits
Prerequisite: CP students only; 428. Corequisite: 480. Field placement in area agencies offering nutrition services. Study of the agency's goals, organization, and philosophy of nutritional care.		
482	COMMUNITY NUTRITION II	3 credits
Prerequisite: 480. Corequisite: 483 for CP students only. Activities engaged in by community nutritionist. Emphasis on controversies, cultural differences, educational approaches, grantsmanship, marketing, and working with the media.		
483	COMMUNITY NUTRITION II-CLINIC	1 credits
Prerequisite: CP students only; 481. Corequisite: 482. A second field placement in an area agency offering nutrition services. Study of the agency's goals, organization, and philosophy of nutritional care.		
485	SEM: HEALTH PROFESSIONS	1-3 credits
Prerequisite: permission of instructor. Exploration and evaluation of current developments in selected areas.		
486	STAFF RELIEF: DIETETICS	2 credits
Prerequisites: 414, CP senior only. Opportunity to function as an entry-level dietitian in area of administrative, therapeutic or community dietetics. The graduating senior CUP student spends three 40-hour weeks in a mutually agreeable agency primarily under direction of staff dietitians or coordinators.		
487	SPORTS NUTRITION	3 credits
Prerequisites: 133; 3100:202,203; 3150:112,113 or 203 or permission of instructor. In-depth study of energy metabolism and utilization before, during, and after exercise. Factors affecting nutrient needs and peak performance of different athletic populations are emphasized.		
488	PRACT: DIETETICS	1-3 credits
Prerequisite: approval of advisor/instructor. Practical experience in application of the principles of nutrition.		

489	PROFESSNL PREPARATN- DIETETICS	1 credits
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Historical aspects of dietetics and where the profession is going. Specialty areas of dietetic practice are explored. Students prepare the application for dietetic internship.

493	NUTRITION FOR ATHLETES	3 credits
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Study of metabolism before, during, and after exercise. Factors affecting nutrient needs and peak performance of different athletic populations are emphasized.

499	SR HONORS PROJ: NUTR & DIET	1-3 credits
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(May be repeated for a total of six credits) Prerequisites: Senior standing in Honors Program and approval of honors preceptor. Individual study supervised by adviser. Student and preceptor develop goals, objectives and methodology.

Course Details (8000)

301

COOPERATIVE EDUCATION

0 credits

(May be repeated). For cooperative education students only. Work experience in business, industry, or governmental agency. Comprehensive performance evaluation and written report required.

Course Details (8200)

100	INTRODUCTION TO NURSING	1 credits
Introduces students to influences of past, present, and future political, legal, social, and cultural processes on the nursing profession and the roles of nurses.		
101	INTRO TO BACCALAUREATE NURSING	1 credits
Prerequisite: Licensed Practical Nurse. Introduces L.P.N./B.S.N. students to the purposes of baccalaureate nursing education. Explores philosophy, nursing theories, research, emerging roles, decision making, and the health care system.		
211	FOUND OF NURSING PRACTICE I	5 credits
Prerequisite: Admission to the College. This course focuses on basic concepts and skills needed by novice nursing students in order to care for clients. This course will focus on nurse-client relationships, communication, nursing process, psychomotor skills, and beginning pharmacology. Clinical experiences will reflect these concepts and skills.		
212	FOUND OF NURSING PRACTICE II	5 credits
Prerequisite: 211. Builds on Foundations of Nursing Practice I focusing on promoting holistic well being across the lifespan. Clinicals are with children and adults, acute and non-acute settings.		
215	PROFESSIONAL ROLE DEVELOPMENT	2 credits
Prerequisite: Admission to the College. This foundational course explores the professional role of the nurse and nursing's impact on multiple levels of health care and health outcomes. An overview of the art and science of nursing are discussed along with strategic nursing initiatives.		
216	TRANSITION TO BACC NURSING	3 credits
Prerequisite: Admission to College of Nursing. This course emphasizes the transition from Licensed Practical Nurse to professional nurse. The LPN is introduced to the discipline of nursing from the baccalaureate perspective.		
217	PATHOPHYSIOLOGY FOR NURSES	3 credits
Prerequisite: Admission to the College of Nursing. Develop understanding of basic concepts related to pathophysiologic mechanisms of health, illness as applied to nursing. Emphasis on application to nursing using the nursing process.		
225	HEALTH ASSESSMENT	3 credits
Prerequisite: Admission to the College. The skills of taking health histories and performance of basic physical assessment. Supervised practice in the Learning Resource Center.		

230	NURSING PHARMACOLOGY	3 credits
Prerequisite: Admission to the College of Nursing. Emphasis on fundamental concepts of pharmacology as applied to major drug classes, actions and effects. Application of nursing process to drug therapy across the lifespan.		
336	CONCEPTS OF PROFESSIONAL NURSING	4 credits
Prerequisite: Admission to the RN/BSN sequence. Introduces the RN to baccalaureate nursing. Focuses on the relationship of concepts and theories to the role of the professional nurse. Offered Summer only.		
337	HEALTH ASSESSMENT/RN	3 credits
Prerequisite: admission to RN program. This three hour health assessment course is designed for the registered nurse. The course consists of both theory and supervised clinical laboratory practice.		
350	NURSING OF CHILDBEARING FAMILY	5 credits
Prerequisite: Satisfactory completion of Sophomore level nursing courses. A theoretical and clinical basis for care of the childbearing family in varying degrees of health and in a variety of settings.		
360	NURSING CARE OF ADULTS	5 credits
Prerequisite: Satisfactory completion of Sophomore level nursing courses. Acute nursing care of adults with nutrition, elimination, metabolic, sexual, reproductive, and immunological concerns. Includes theory and practice at the advanced beginner level.		
370	NURSING CARE OF OLDER ADULTS	5 credits
Prerequisite: Satisfactory completion of Sophomore level nursing courses. Acute nursing care of older adults with mobility, perception, circulation, and oxygenation concerns. Includes theory and practice at the advanced beginner level.		
380	MENTAL HEALTH NURSING	5 credits
Prerequisite: Satisfactory completion of Sophomore level nursing courses. Assists students in developing knowledge and skills for providing care to individuals with mental health needs in a variety of settings.		
405	NURSING CARE HEALTHY INDIVIDUAL/FAMILY	3 credits
Prerequisites: 336, 337. Health care concepts across the lifespan with emphasis on health promotion and illness prevention for individuals, families, and groups are discussed.		
406	PALLIATIVE NURSING CARE	3 credits
Prerequisite: 336. Dimensions of end of life nursing care, including family dynamics, grief and loss, ethical considerations, physiologic changes and community resources are examined.		
409	INTERNATIONAL HEALTH	2-3 credits
Prerequisite: Junior standing. Study in an international location. Focuses on comparisons of education, ethics, government, demography and geography on health care and nursing roles and responsibilities.		

410	NURSING FAMILIES WITH CHILDREN	5 credits
Prerequisite: Satisfactory completion of Junior level nursing courses. Theoretical and clinical nursing course focused on the child within a family context. Health problems of both acute and chronic nature are explored.		
412	GLOB PERSPCT OF HLH & HLH CARE	2-3 credits
Prerequisites: senior status. Cultural, political, educational, and economical perspectives of different regions of the world and the impact of these factors on health will be compared and examined.		
415	CMLX CARE AGING FAMLRS/RN ONLY	3 credits
Prerequisites: 336, 337, 405, 445. Complex nursing issues related to care of aging individuals and families are explored. The nurse's role in physiological, emotional and psychosocial care is discussed.		
430	NURSING CMLX/CRTCL SITUATIONS	5 credits
Prerequisite: Satisfactory completion of all Junior level nursing courses. Introduces advanced beginners to the complexity of nursing care in acute complex and critical situations of patients with multi-system failures.		
435	NURSING RESEARCH	2 credits
Prerequisite: Satisfactory completion of all Junior level nursing courses. Exploration of the effects of nursing research on the profession, become a knowledgeable consumer of research.		
436	NURSING RESEARCH/RN ONLY	3 credits
Prerequisite: 336. Exploration of the effects of nursing research on the profession and becoming a knowledgeable consumer of research.		
440	NURSING OF COMMUNITIES	5 credits
Prerequisite: Satisfactory completion of all Junior level nursing courses. A synthesis of nursing skills applied among various community populations. Health and illness care strategies within diverse population groups.		
444	NURSING OF COMM PRACTM-RN ONLY	2 credits
This clinical practicum provides experiences related to community health nursing in a variety of traditional and nontraditional community environments.		
445	NURSING OF COMMUNITIES/RN ONLY	3 credits
Prerequisites: 336, 337, 405. This course provides a theoretical foundation for community, including public health nursing, to individuals and families in a variety of settings to diverse populations.		
446	PROFESSIONAL NRSNG LEADERSHIP	3 credits
Prerequisite: 445. Issues related to nursing leadership, management, policy, and economic issues within the healthcare system that influence nursing practice are discussed.		
447	PROF NURS LEADERSHIP PRACTICUM	2 credits

This clinical course offers the opportunity to implement leadership and management skills in a health care setting.

448 PROFESSIONAL NURSING CAPSTONE 3 credits

Prerequisites: 415 and 446. Opportunities to synthesize information and reflect on ethical, legal, cultural, and political dimensions of employment and patient care within the health care system are provided.

450 SR PRACTICUM & NURS LEADERSHIP 5 credits

Prerequisite: Completion of all Junior level courses. This course focuses on the application of leadership and management principles to the practice of nursing. Political, social, cultural, legal and ethical issues are explored.

453 SCHOOL NURSE PRACTICUM I 5 credits

Prerequisite: 5570:421/521, 5570:423/523, 225 or 650. Corequisites: 225 or 650 if not previously completed. Emphasis on clinical primary health care nursing to enhance positive health behavior outcomes of well children and adolescents with minor conditions on family, community, school contexts.

454 SCHOOL NURSE PRACTICUM II 5 credits

Prerequisite: 5570:421/521, 5570:423/523, 225 or 650, 453/553 or waiver. Emphasis on primary health care nursing to enhance positive health behavior outcomes of children/adolescents with minor common health or behavioral problems and chronic illnesses.

480 SENIOR HONORS PROJECT 3 credits

Prerequisites: Senior standing in Honors Program and nursing major. Completion and presentation of an original investigation of a significant topic or creative work which must meet high standards of scholarship.

489 ST: NURSING 1-4 credits

(May be repeated as new topics are presented) Group studies of special topics in nursing. May not be used to meet requirements for the major in nursing. May be used for elective credit.

493 W: NURSING 1-4 credits

(May be repeated as new topics are presented) Selected topics in nursing. May be used to meet undergraduate or graduate major requirements at the discretion of the college.

497 INDP STUDY: NURSING 1-3 credits

Prerequisite: permission of Director of Nursing Education, and good academic standing. Provides opportunity to develop greater depth in an area of nursing through methodology specific to discipline of nursing.

College of Polymer Science and Polymer Engineering

- Polymer Science and Polymer Engineering (9821)
- Polymer Engineering (9841)
- Polymer Science (9871)

Course Details (9821)

281	POLYMER SCIENCE FOR ENGINEERS	2 credits
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Prerequisites: 3150:151 and 152. Chemical bonds and structure of organic molecules, polymer chain structure, amorphous and crystalline morphology and structural characterization, polymerization and copolymerization, experimental demonstrations, typical solid-state and flow properties.

381	POLYM MORPHOLOGY FOR ENGINEERS	3 credits
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Prerequisites: 281, 3150:151, 3650:292. Fundamental understanding of solid structure, crystallography and morphology, processed polymers, co-polymers and their blends.

Course Details (9841)

321	POLYMER FLUID MECHANICS	3 credits
Prerequisite: 4600:310 or equivalent. Rheological properties and flow characteristics of polymer fluid systems; non-Newtonian viscosity, viscoelasticity.		
422	POLYMER PROCESSING	3 credits
Prerequisites: 321 and 4600:315 or equivalent. Polymer processing technology. Basic studies of flow in extrusion, molding, and other processing methods.		
425	INTRO BLENDING & COMPND POLYM	3 credits
Prerequisites: 4200:321 or 4600:310 or permission. Nature of polymer blends and compounds and their applications. Preparation and technology using batch and continuous mixers, mixing mechanisms.		
427	MOLD DESIGN	3 credits
Prerequisites: 4200:321 or 4600:310 or permission. Molding methods to manufacture polymeric products. Machinery, materials, molds, equipment, computer-aided design.		
450	ENGNRG PROPERTIES OF POLYMERS	3 credits
Prerequisites: 4600:336 or permission. Introduction to engineering properties and polymer processing. Analyzing mechanical polymer tests in glassy, rubbery, and fluid states. Product design, rheology, rheometry and polymer processing concepts.		
451	POLYMER ENGINEERING LABORATORY	2 credits
Prerequisite: 4200: 321. Corequisite: 422. Laboratory experiments on the rheological characterization of polymer melts, fabrication of engineering products, structural investigation of polymeric parts.		
497	HONORS PROJECT	2 credits
Prerequisite: Senior standing in the Honors Program. Individual creative project in mechanical polymer engineering, supervised by faculty member of the department. This course must be designed oriented if used in place of 4700:499.		
499	POLYMER ENGR DESIGN PROJECT	2 credits
Corequisite: 4600:400 or permission of instructor. Analysis and design of mechanical polymer systems.		

Course Details (9871)

401	INTRODUCTION TO ELASTOMERS	3 credits
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Prerequisites: physical chemistry (or equivalent) or permission. An introduction to the science and technology of elastomeric materials and gels, including hydrogels. Lecture and laboratory.

402	INTRODUCTION TO PLASTICS	3 credits
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Prerequisite: physical chemistry (or equivalent) or permission. An introduction to the science and technology of plastic materials. Lecture and laboratory.

407	POLYMER SCIENCE	4 credits
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Prerequisite: 3150:314 or 3650:301 or permission. Principles of polymerization processes and relationships between molecular structures and physical behavior of polymers. Molecular weight distributions of macromolecules discussed and methods of determining molecular weights utilized.

497	HONORS PROJECT IN POLYMER SCI	1-3 credits
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Prerequisites: Sophomore, junior, or senior standing in Honors College and permission of honors preceptor in the home department. Independent research leading to completion of honors thesis under guidance of project adviser. May be repeated for a total of 10 credits.

499	RESEARCH PROBLEMS POLYMER SCI	1-3 credits
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Prerequisite: permission. Faculty-supervised undergraduate research problems in polymer science, culminating in a written report.

School of Law

Notes:

Graduate-level courses only. See Graduate Bulletin